

# aiwa

**MD/CD STEREO SYSTEM**

**SISTEMA ESTEREO CON REPRODUCTOR-GRABADORA DE  
MINIDISCOS Y REPRODUCTOR DE DISCOS COMPACTOS**

**CHAINE STEREO AVEC LECTEUR/ENREGISTREUR DE  
MINIDISQUE ET LECTEUR DE DISQUE COMPACT**

# XR-MD100

**OPERATING INSTRUCTIONS  
MANUAL DE INSTRUCCIONES  
MODE D'EMPLOI**

**En** (English)

**E** (Español)

**F** (Français)

For assistance and information,

***call toll free 1-800-BUY-AIWA.***

(United States and Puerto Rico)

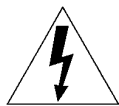


## WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



### Explanation of Graphical Symbols:



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## PRECAUTIONS

Read the Operating Instructions carefully and completely before operating the unit. Be sure to keep the Operating Instructions for future reference. All warnings and cautions in the Operating Instructions and on the unit should be strictly followed, as well as the safety suggestions below.

### Installation

- Water and moisture** – Do not use this unit near water, such as near a bathtub, washbowl, swimming pool, or the like.
- Heat** – Do not use this unit near sources of heat, including heating vents, stoves, or other appliances that generate heat. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).
- Mounting surface** – Place the unit on a flat, even surface.
- Ventilation** – The unit should be situated with adequate space around it so that proper heat ventilation is assured. Allow 10 cm (4 in.) clearance from the rear and the top of the unit, and 5 cm (2 in.) from the each side.
  - Do not place the unit on a bed, rug, or similar surface that may block the ventilation openings.
  - Do not install the unit in a bookcase, cabinet, or airtight rack where ventilation may be impeded.
- Objects and liquid entry** – Take care that objects or liquids do not get inside the unit through the ventilation openings.
- Carts and stands** – When placed or mounted on a stand or cart, the unit should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit or cart to overturn or fall.



- Condensation** – Moisture may form on the CD pickup lens when:
  - The unit is moved from a cold spot to a warm spot
  - The heating system has just been turned on
  - The unit is used in a very humid room
  - The unit is cooled by an air conditioner
 When this unit has condensation inside, it may not function normally. Should this occur, leave the unit for a few hours, then try to operate again.
- Wall or ceiling mounting** – The unit should not be mounted on a wall or ceiling, unless specified in the Operating Instructions.

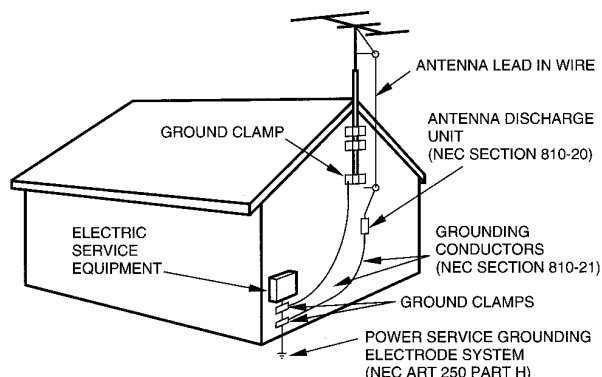
### Electric Power

- Power sources** – Connect this unit only to power sources specified in the Operating Instructions, and as marked on the unit.
- Polarization** – As a safety feature, some units are equipped with polarized AC power plugs which can only be inserted one way into a power outlet. If it is difficult or impossible to insert the AC power plug into an outlet, turn the plug over and try again. If it still does not easily insert into the outlet, please call a qualified service technician to service or replace the outlet. To avoid defeating the safety feature of the polarized plug, do not force it into a power outlet.
- AC power cord**
  - When disconnecting the AC power cord, pull it out by the AC power plug. Do not pull the cord itself.
  - Never handle the AC power plug with wet hands, as this could result in fire or shock.
  - Power cords should be routed to avoid being severely bent, pinched, or walked upon. Pay particular attention to the cord from the unit to the power socket.
  - Avoid overloading AC power plugs and extension cords beyond their capacity, as this could result in fire or shock.
- Extension cord** – To help prevent electric shock, do not use a polarized AC power plug with an extension cord, receptacle, or other outlet unless the polarized plug can be completely inserted to prevent exposure of the blades of the plug.
- When not in use** – Unplug the AC power cord from the AC outlet if the unit will not be used for several months or more. When the cord is plugged in, a small amount of current continues to flow to the unit, even when the power is turned off.

### Outdoor Antenna

- Power lines** – When connecting an outdoor antenna, make sure it is located away from power lines.
- Outdoor antenna grounding** – Be sure the antenna system is properly grounded to provide protection against unexpected voltage surges or static electricity build-up. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information on proper grounding of the mast, supporting structure, and the lead-in wire to the antenna discharge unit, as well as the size of the grounding unit, connection to grounding terminals, and requirements for grounding terminals.

Antenna Grounding According to the National Electrical Code



NEC-NATIONAL ELECTRICAL CODE

## Maintenance

Clean the unit only as recommended in the Operating Instructions.

## Damage Requiring Service

Have the unit serviced by a qualified service technician if:

- The AC power cord or plug has been damaged
  - Foreign objects or liquid have gotten inside the unit
  - The unit has been exposed to rain or water
  - The unit does not seem to operate normally
  - The unit exhibits a marked change in performance
  - The unit has been dropped, or the cabinet has been damaged
- DO NOT ATTEMPT TO SERVICE THE UNIT YOURSELF.

## Owner's record

For your convenience, record the model number and serial number (you will find them on the rear of your set) in the space provided below. Please refer to them when you contact your Aiwa dealer in case of difficulty.

Model No.	Serial No. (Lot No.)
XR-MD100	
SX-M100	

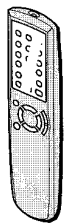
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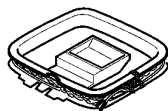
En

## CONNECTIONS

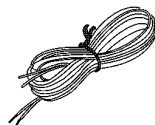
### Check your accessories



Remote control



AM loop antenna



FM antenna

Operating Instructions, etc.

### Before connecting the AC cord

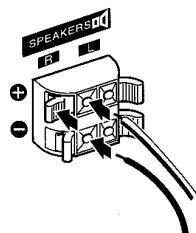
The rated voltage of your unit shown on the rear panel is 120 V AC. Check that the rated voltage matches your local voltage.

### IMPORTANT

- Connect the speakers, antennas, and all optional equipment first. Then connect the AC cord in the end.
- There are no differences between the front speakers. Both speakers can be connected as L (Left) or R (Right).

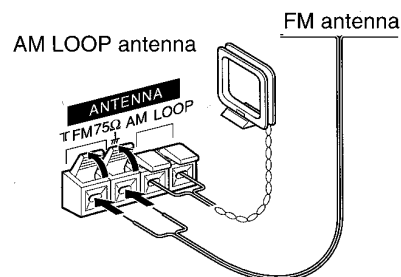
### 1 Connect the speaker cords to the main unit.

The cords with the white stripes should be connected to the  $\oplus$  terminals and the other cords to the  $\ominus$  terminals.



### 2 Connect the supplied antennas.

Connect the FM antenna to the FM 75  $\Omega$  terminals and the AM antenna to the AM LOOP terminals.



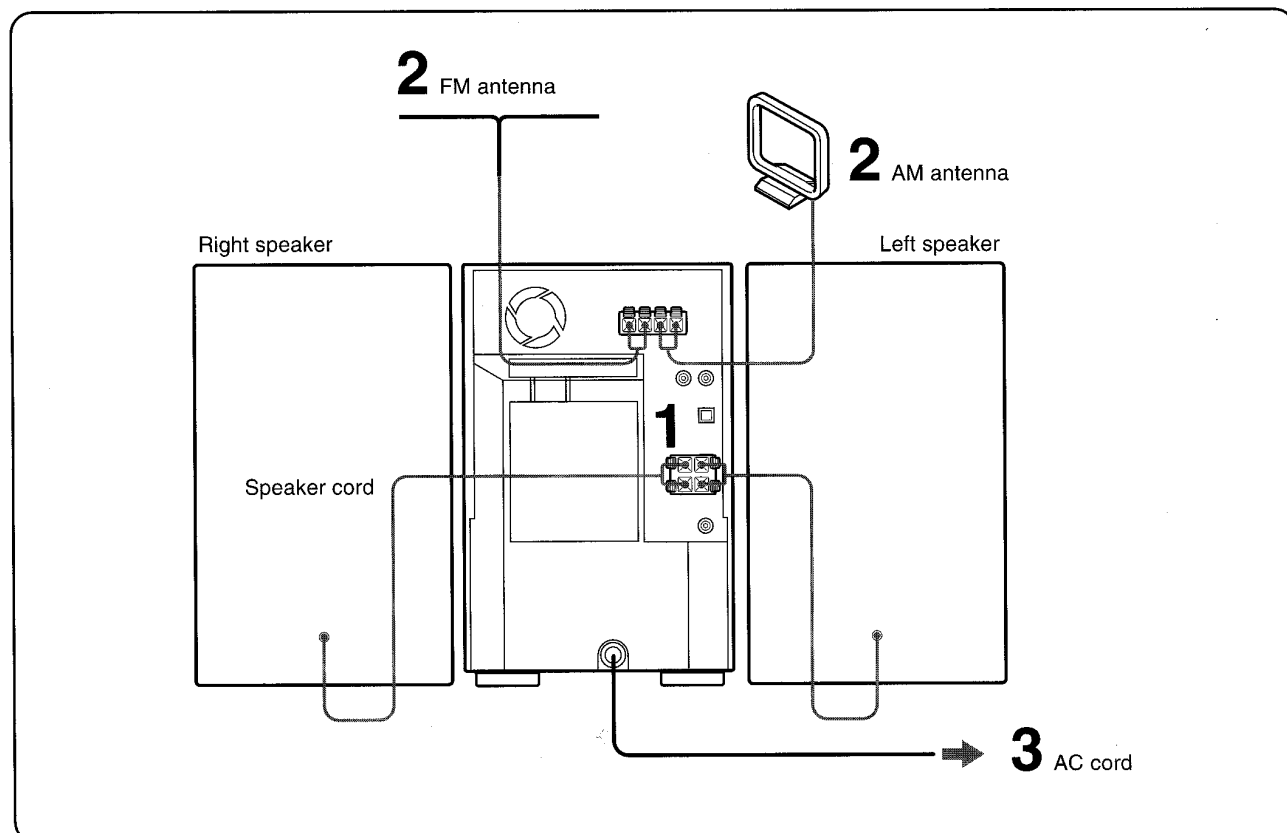
### 3 Connect the AC cord to an AC outlet.

## CONCERNING THE DISPLAY WINDOW'S DEMO DISPLAY

When the power cord is plugged into an electrical outlet for the first time after purchase, a demo display will appear in the display window. When the power is turned on, the demo display will end. When the power is turned off, the demo display will appear again. Until the clock is set, the demo display will appear whenever the power is turned off. (For setting the clock, see page 6.)

### When the clock is set

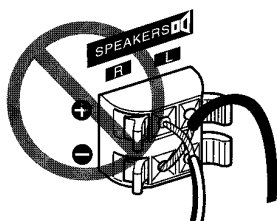
The demo display can be seen using the DEMO/ECO button. This button is used also to dim the display and to set the unit in the power economizing mode. See page 7 for detailed explanation.





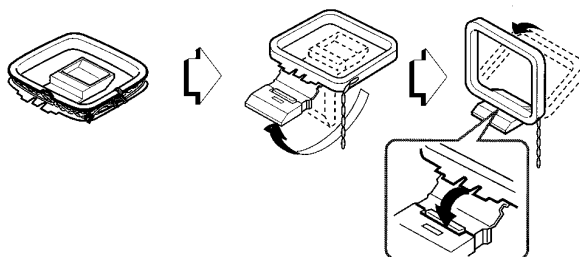
# NOTE

Do not short-circuit the  $\oplus$  and  $\ominus$  speaker cord leads; otherwise the sound may become inaudible or the unit may be turned off. If this happens, disconnect the AC cord from the AC outlet and re-connect the speaker cords correctly. Connect then the AC cord and turn the unit on again.



## To stand the AM antenna on a surface

Fix the claw to the slot.



## To position the antennas

### FM feeder antenna:

Extend this antenna horizontally in a T-shape and fix its ends to the wall.

### AM loop antenna:

Position to find the best direction.

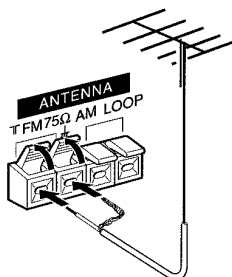
# NOTE

- Do not connect any speakers to the unit other than the supplied ones.
- Do not leave objects generating magnetism near the speakers.
- Do not bring the FM antenna near metal objects or curtain rails.
- Do not bring the AM antenna near other optional equipment, the stereo system itself, the AC cord or speaker cords, since noise will be picked up.
- Do not unwind the AM antenna wire.
- Care should be taken so that the speaker and antenna cords do not get into the ventilation openings on the rear of the unit.

## CONNECTING AN OUTDOOR ANTENNA

For better FM reception, use of an outdoor antenna is recommended.

Connect the outdoor antenna to the FM 75  $\Omega$  terminals.

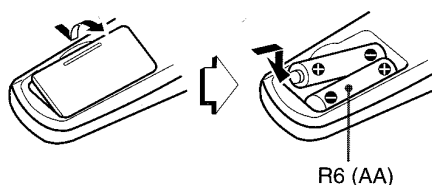


To connect other optional equipment → page 34.

## REMOTE CONTROL

### Inserting batteries

Detach the battery cover on the rear of the remote control and insert two R6 (size AA) batteries.



### When to replace the batteries

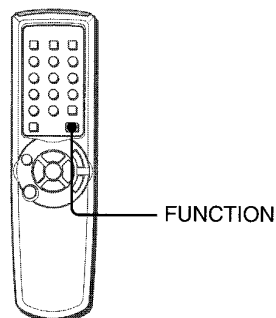
The maximum operational distance between the remote control and the sensor on the main unit should be approximately 5 meters (16 feet). When this distance decreases, replace the batteries with new ones.

### To use the remote control

Some operations can be performed using the buttons on the remote control only, or those on the main unit only, while others can be performed using the buttons on the main unit as well as on the remote control. This instructions manual clearly describes the buttons available for each operation.

# NOTE

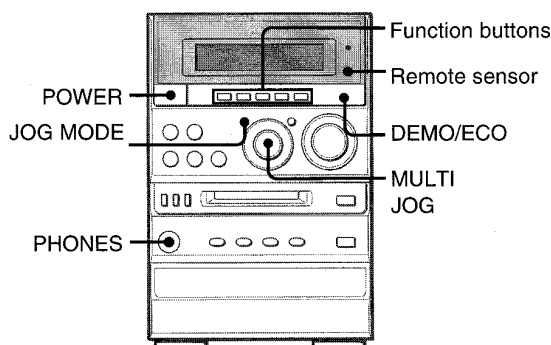
- The  $\blacktriangleright$  button on the remote control has the same function as that of the  $\blacktriangleleft$  button on the unit.
- If the unit is not going to be used for an extended period of time, remove the batteries to prevent possible electrolyte leakage.
- The remote control may not operate correctly when:
  - The line of sight between the remote control and the remote sensor on the right top of the front panel (see the illustration of "BEFORE OPERATION") is exposed to intense light, such as direct sunlight.
  - Other remote controls are used nearby (television, etc.)



### To use the FUNCTION button

The FUNCTION button substitutes for the function buttons (TAPE/REV MODE, TUNER/BAND, AUX/DIGITAL IN, CD, MD) on the main unit. Each time the FUNCTION button is pressed while power is on, the next function is selected cyclically.

## BEFORE OPERATION



### To turn the unit on

Press one of the function buttons (TAPE/REV MODE, TUNER/BAND, AUX/DIGITAL IN, CD, MD).

Playback of the inserted disc or tape begins, or the previously tuned station is received (Direct Play Function).

The POWER button is also available.

### To turn the unit off

Press the POWER button again.

### MULTI JOG dial

The MULTI JOG dial can be used when setting the clock and timer, selecting a radio station or skipping to the beginning of a CD track and an MD track. It can also be used with the JOG MODE button as a convenient dial to adjust the sound quality and turn Dolby NR on or off.

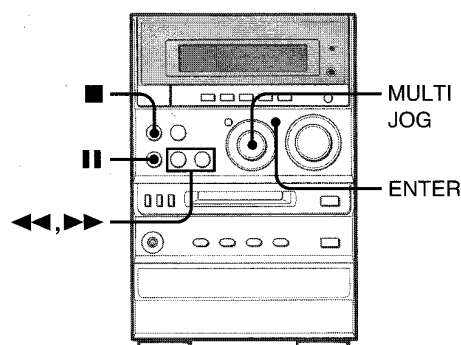
Detailed explanations are given on each related page.

### To use the headphones

Connect headphones to the PHONES jack with a stereo mini plug (ø3.5 mm, 1/8 inch).

No sound is output from the speakers while the headphones are plugged in.

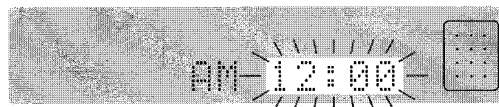
## SETTING THE CLOCK



### 1 Press the ■ button when the power is off.

The clock is displayed. (Or the clock becomes brighter.)

- When the power cord is plugged into an electrical outlet for the first time after purchase or when the clock setting is canceled due to a power failure, the entire clock display flashes by pressing the ■ button. Within 4 seconds, start setting the clock as described in step 2.



To switch to the 24-hour standard, press the ■ button.

To restore the 12-hour standard, press the ■ button again.

### 2 While the clock is displayed (for 4 seconds), start setting the time.

Turn the MULTI JOG dial to the right to advance the time and turn it to the left to move the time back. The speed with which the time changes varies according to how fast you turn the MULTI JOG dial. You can also press the ◀ or ▶ button. Holding these buttons down will vary the time in 10-minute units.

### 3 Press the ENTER or ■ button.

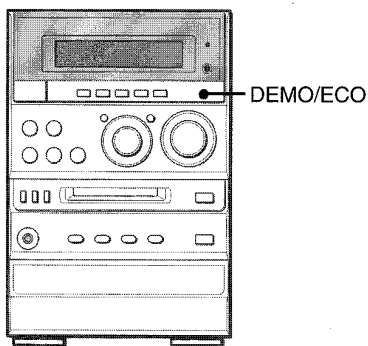
#### When the clock is set for the first time after purchase

Everything on the display will clear.

This is because the power economizing mode of the unit is activated, and is not a malfunction.

The power economizing mode can be canceled. See page 7 for details.

If the demo display appears and the ■ button flashes with the power turned off, it indicates that the clock had been stopped due to a power failure or the removal of the power cord. The current time needs to be reset.



## ECONOMIZING POWER

This unit allows you to regulate its power consumption by displaying nothing on the display while the power is off. This is called **the power economizing mode**.

**Press the DEMO/ECO button while the unit is turned off.**

Each press of this button changes the display status as follows:

- ➔ ① Demo display (power economizing mode canceled)
- ② Power economizing mode
- ③ Clock display (power economizing mode canceled)

**When the power economizing mode is set**

"Eco Mode" is displayed for 4 seconds, and everything on the display will clean.

Only the red indicator to the right of the display window lights to show that the power is supplied to the unit.

**Standby power consumption**

If the power economizing mode is activated : 1.4W

## DIMMING THE DISPLAY

This unit allows you to change the brightness of the display window according to your preference.

**Press the DEMO/ECO button while the unit is turned on.**

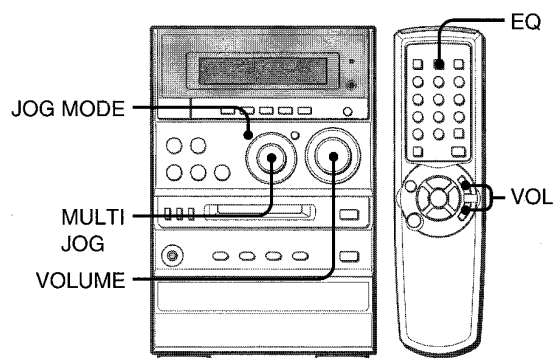
Each press of this button changes the display status as follows:

- ➔ ① Brighter display
- ② Demo display
- ③ Darker display

If the power is turned off after changing the display brightness, the display returns to the last status when the power is turned on the next time.

If the power is turned off during the demo display, the display becomes brighter when the power is turned on again.

## ADJUSTING THE SOUND



### ADJUSTING THE VOLUME

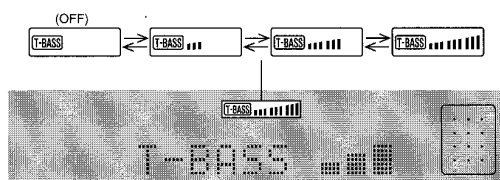
Turn the **VOLUME** control on the main unit, or press the **VOL** buttons on the remote control.

The volume level is shown on the display for 4 seconds. It can be set from 0 (minimum) to 30, and then MAX (maximum). The volume remains memorized even after the power is turned off. However, if the power is turned off when the volume is set to more than 21, it is automatically set to 21 the next time the power is turned on.

### ENHANCING THE BASS SOUND

The T-BASS system enhances the realism of low-frequency sound.

Press the **JOG MODE** button repeatedly until "T-BASS" appears on the display. Then, turn the **MULTI JOG** dial right or left to select one of the three levels, or off position within 6 seconds. The T-BASS level does not change cyclically.

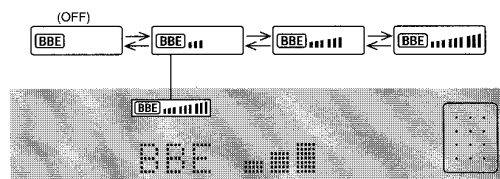


#### NOTE

Low frequency sound may be distorted when the T-BASS system is used for a disc or tape in which low frequency sound is originally emphasized. In this case, cancel the T-BASS system.

### ENHANCING THE TREBLE SOUND

The BBE system enhances the clarity of high-frequency sound. Press the **JOG MODE** button repeatedly until "BBE" appears on the display. Then, turn the **MULTI JOG** dial right or left to select one of the three levels, or off position within 6 seconds. The BBE level does not change cyclically.



### EQ (EQUALIZER)

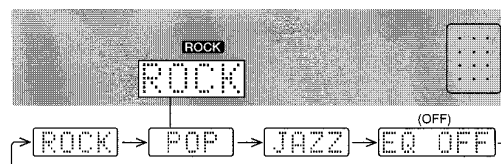
This unit provides the following three different equalization curves.

**ROCK:** Powerful sound emphasizing treble and bass

**POP:** More presence in the vocals and midrange

**JAZZ:** Accented lower frequencies for jazz-type music

Press the **JOG MODE** button repeatedly until "EQ OFF" (or the current EQ setting) appears on the display. Then, turn the **MULTI JOG** dial right or left to select one of the three kinds, or off position within 6 seconds.



The graphic curve corresponding to the selected equalization mode will be displayed on the display.

When using the remote control, press the EQ button repeatedly.

### Q SURROUND SYSTEM

The Q SURROUND system built into this unit uses only two speakers at the left and right to create an atmosphere that sound as if you are surrounded by two front speakers and two rear speakers.

Press the **JOG MODE** button repeatedly until "Q-SUR OFF" appears on the display window. Then, within 6 seconds, turn the **MULTI JOG** dial to select "Q-SUR ON."



#### To cancel the Q SURROUND effect

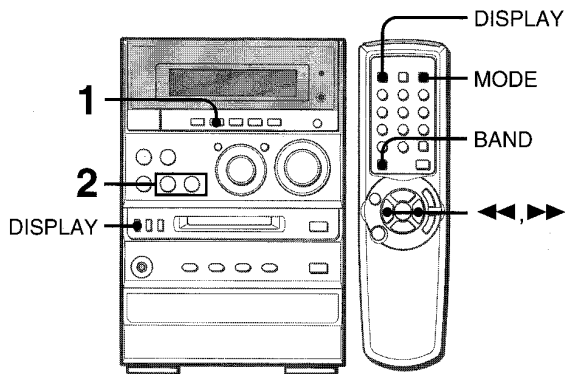
Select "Q-SUR OFF" instead of "Q-SUR ON" in the above procedure.

### SOUND ADJUSTMENT DURING RECORDING

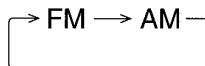
The output volume and tone of the speakers or headphones may be freely varied without affecting the level of the recording.



# MANUAL TUNING

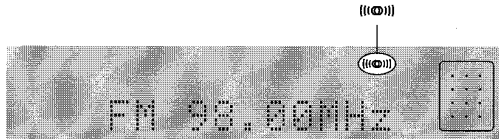


- 1 Press the TUNER/BAND button on the main unit or the BAND button on the remote control repeatedly to select the desired band.



If the power is turned off, the previously tuned station will be played (Direct Play Function).

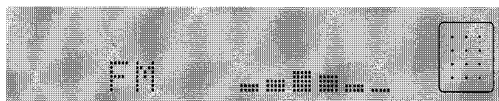
- 2 Press the ◀◀ or ▶▶ button to select a station. Each time the button is pressed, the frequency changes. When a station is received, "TUNE" is displayed for 2 seconds. During FM stereo reception, ((I(II))) is displayed.



## About the level indicator

The above display automatically changes to the level indicator after 4 seconds.

The level indicator shows an approximate playback sound level.



## To search for a station quickly (Auto Search)

Keep the ◀◀ or ▶▶ button pressed until the tuner starts searching for a station. After tuning in to a station, the search stops.

To stop the Auto Search manually, press the ◀◀ or ▶▶ button.

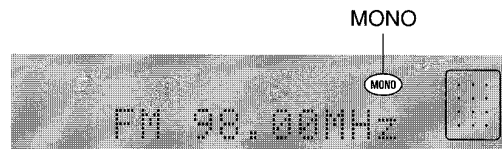
- The Auto Search may not stop at stations with very weak signals.

## When an FM stereo broadcast contains noise

Press the MODE button on the remote control.

"MONO" appears on the display.

Noise is reduced, although reception is monaural.



To restore stereo reception, repeat the above again.

## To change the AM tuning interval

The default setting of the AM tuning interval is 10 kHz/step. If you use this unit in an area where the frequency allocation system is 9 kHz/step, change the tuning interval.

Press the POWER button while pressing the TUNER/BAND button.

To reset the interval, repeat this procedure.

## NOTE

When the AM tuning interval is changed, all preset stations (see "PRESETTING STATIONS") are cleared. The preset stations have to be set again.

## To change the display

Press the DISPLAY button. With each press of the button, the display changes in the following order.

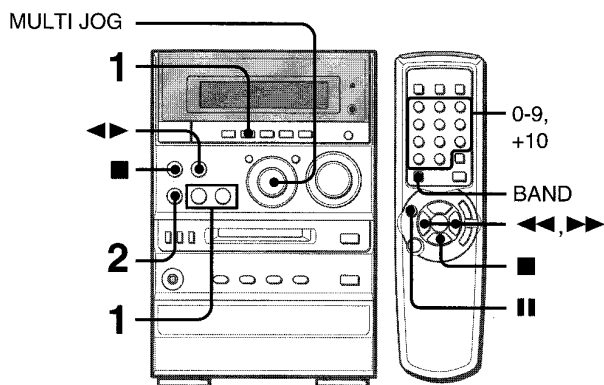
- ① Level indicator
- ② Frequency of the tuned station  
(Example: FM 90.00MHz)
- ③ Remaining recordable time of MD (only when an MD is loaded)  
(Example: Rem -48:07)

The remaining recordable time of MD changes automatically to the frequency of the tuned station and then to the level indicator, after 4 seconds each.

En

SOUND  
RADIO RECEPTION

# PRESETTING STATIONS

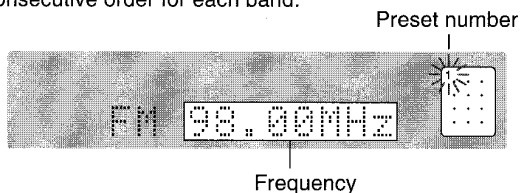


The unit can store a total of 32 preset stations for each band. When a station is stored, a preset number is assigned to the station. Use the preset number to tune in to a preset station directly.

**1 Press the TUNER/BAND button on the main unit or the BAND button on the remote control to select a band. Then, press the ◀▶ button to select a station.**

**2 Press the ■ button to store the station.**

A station is assigned a preset number, beginning from 1 in consecutive order for each band.



**3 Repeat steps 1 and 2.**

The next station will not be stored if 32 preset stations have already been stored ("PRST FULL" will be displayed).

## PRESET NUMBER TUNING

**1 Press the TUNER/BAND button on the main unit or the BAND button on the remote control to select a band.**

**2 Press the ◀▶ button or turn the MULTI JOG dial.**

Each time the button is pressed, the next ascending preset number is selected.

### Tuning by preset number

**1 Press the BAND button on the remote control to select a band. (Or, use the TUNER/BAND button on the main unit.)**

**2 Press the numbered buttons on the remote control to select a preset number:**

#### Example:

To select preset number 10, press the +10 and 0 buttons.

To select preset number 15, press the +10 and 5 buttons.

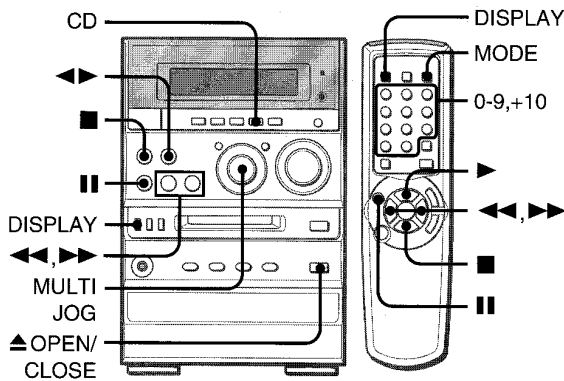
### To clear a preset station

Select the preset number of the station to be cleared. Then, press the ■ button, and press the ■ button within 4 seconds. The preset numbers of all other stations in the band with higher numbers are also decreased by one.

### NOTE

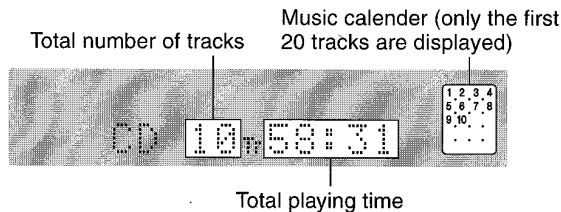
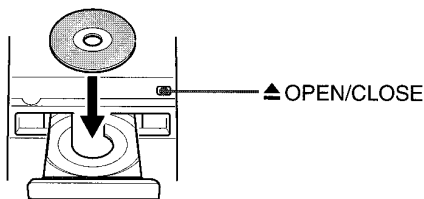
If there is a long period of power failure or disconnection of AC cord, the presetting of the stations is canceled. In this case, preset again.

## OPERATION



### LOADING A DISC

Press the CD button, then press the  $\Delta$  OPEN/CLOSE button to open the disc compartment. Load a disc with the label side up and close the disc compartment.

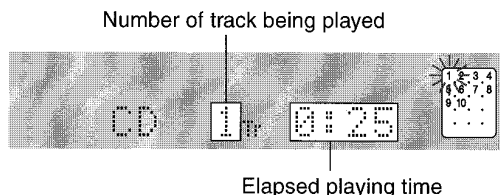


### PLAYING A DISC

Load a disc.

Press the  $\blacktriangleleft$  button.

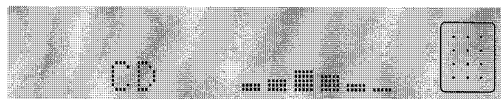
Play begins with the first track.



#### About the level indicator

The above display automatically changes to the level indicator after 4 seconds.

The level indicator shows an approximate playback sound level.



To stop play, press the  $\blacksquare$  button.

To pause play, press the  $\parallel$  button. To resume play, press again.

To search for a particular point during playback, keep the  $\blacktriangleleft$  or  $\blacktriangleright$  button pressed and release the button at the desired point.

To skip to the beginning of a track during playback, press the  $\blacktriangleleft$  or  $\blacktriangleright$  button repeatedly or turn the MULTI JOG dial. The unit skips forward through the tracks when turning it right, and skips back when turning it left.

To remove the disc, press the  $\Delta$  OPEN/CLOSE button.

#### To start play when the power is off (Direct Play Function)

Press the CD button. The power is turned on and play of the loaded disc begins.

To replace the disc before play, press the  $\Delta$  OPEN/CLOSE button to open the disc compartment.

#### Selecting a track with the remote control

Press the numbered buttons and the +10 button to select a track.

##### Example:

To select the 25th track, press the +10, +10 and 5 buttons.

To select the 10th track, press the +10 and 0 buttons.

The selected track starts to play and play continues to the end of that disc.

#### To change the display in stop mode

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Total number of tracks and total playing time of the CD (Example: CD 10Tr 58:31)
- ② Remaining recordable time of MD (only when an MD is loaded) (Example: Rem -48:07)

The remaining recordable time of MD changes automatically to the total number of tracks and total playing time after 4 seconds.

En

#### To change the display in playback mode

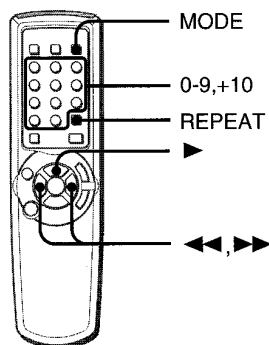
Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Level indicator
- ② Track number being played and elapsed playing time (Example: CD 3Tr 3:43)
- ③ Remaining time of playback (Example: CD -26:15)
- ④ Remaining recordable time of MD (only when an MD is loaded) (Example: Rem -48:07)

The remaining recordable time of MD changes automatically to the elapsed time and then to the level indicator, after 4 seconds each.

#### NOTE

- Do not use irregular shape CDs (example: heart-shaped, octagonal ones). It may result in malfunction.
- When loading an 8-cm (3-inch) disc, put it onto the inner circle of the tray.
- Do not place more than one compact disc on the disc tray.
- Skipping through the CD tracks by turning the MULTI JOG dial is not possible when the dial is used to adjust volume, BBE, T-BASS or EQ, or to turn the Dolby NR on and off.



## RANDOM/REPEAT PLAY

Use the remote control.

### RANDOM play

All the tracks on the disc can be played randomly.

**Press the MODE button repeatedly until "RANDOM" lights up on the display.**

To cancel random play, press the MODE button repeatedly until the normal display appears and "RANDOM" disappears.

### NOTE

- Even if the ◀◀ button is pressed or the MULTI JOG dial is turned, a previously played track cannot be skipped. The unit returns to the beginning of the current track only.
- When you select a track with the numbered buttons on the remote control during the random play mode, the selected track starts to play and the random play mode is canceled.

### REPEAT play

A single track or all tracks can be played back repeatedly.

**Press the REPEAT button repeatedly.**

"↶1" lights up when the single track repeat play is selected, and "↶" lights up when the all tracks repeat play is selected.

To cancel repeat play, press the REPEAT button repeatedly until "↶" and "1" disappear.

### To repeat random play

First press the MODE button to activate random play. Then press the REPEAT button so that "↶" lights up.

## PROGRAMMED PLAY

Up to 30 tracks can be programmed from the inserted disc.

Use the remote control.

**1 In stop mode, press the MODE button repeatedly until "PRGM" appears on the display.**



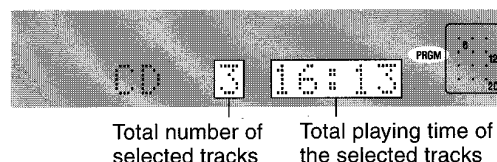
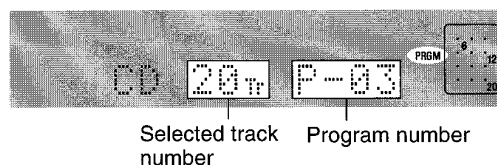
If you press the ▶ button before going to step 2, the programming mode is canceled and the first track of the CD starts to play.

**2 Press the numbered buttons and the +10 button to program a track.**

### Example:

To select the 12th track, press the +10 and 2 buttons.

To select the 20th track, press the +10, +10 and 0 buttons.



**3 Repeat step 2 to program other tracks.**

**4 Press the ▶ button to start play.**

### To check the program

Each time the ▶▶ button is pressed in stop mode, a track number and program number will be displayed.

### To clear the program

Press the ■ button in stop mode.

### To add tracks to the program

Before playing, repeat step 2. The track will be programmed after the last track.

### To change the programmed tracks

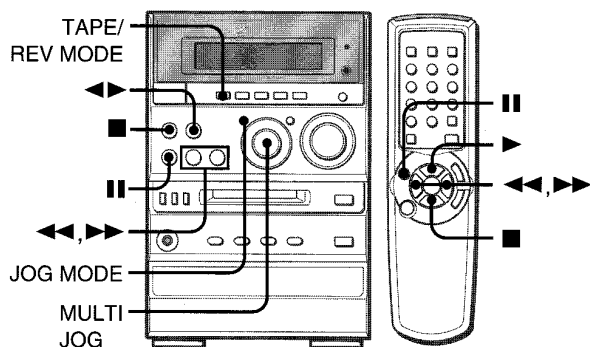
Clear the program and repeat all the steps again.

### NOTE

- During the programmed play, the MODE and numbered buttons do not function.
- Repeating programmed play is also possible.



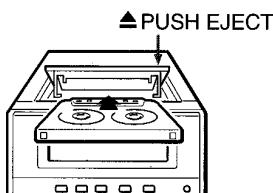
## OPERATION



### LOADING A TAPE

- You can select a reverse mode to play back one or both sides.
- Use Type I (normal), Type II (high/CrO<sub>2</sub>) or Type IV (metal) tapes for playback.

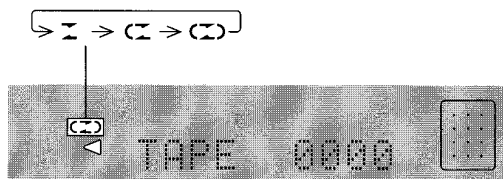
Press the **TAPE/REV MODE** button and press the **▲ PUSH EJECT** mark to open the cassette compartment.



Load a tape with the exposed side facing forward. Push the cassette holder to close.

#### To select a reverse mode

Each time the **TAPE/REV MODE** button is pressed, the reverse mode changes.



To play one side only, select .

To play from front side to back side once only, select .

To play both sides repeatedly, select .

### PLAYING BACK A TAPE

Load a tape.

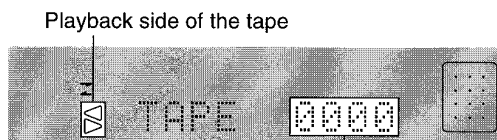
- Press the **JOG MODE** button repeatedly until "NR OFF" or "DOLBY NR ON" appears on the display. Then, turn the **MULTI JOG** dial right or left to turn Dolby NR on or off to match the playback tape within 6 seconds.



For tapes recorded with DOLBY NR, turn the dial so that "DOLBY NR ON" is displayed. The NR indication also turns on.

For tapes recorded without DOLBY NR, turn the dial so that "NR OFF" is displayed.

- Press the button to start play.



The tape counter indicates the tape running length. (It disappears when no tape is inserted.)

- : The side facing upward is being played (forward).
- : The side facing downward is being played (reverse).

En

#### About the level indicator

The above display automatically changes to the level indicator after 4 seconds.

The level indicator shows an approximate playback sound level.



To stop play, press the button.

To pause play, press the button. To resume play, press again.

To change the playback side, press the button in play or pause mode.

To fast forward or rewind, press the or button in stop mode. Then press the button to stop the tape.

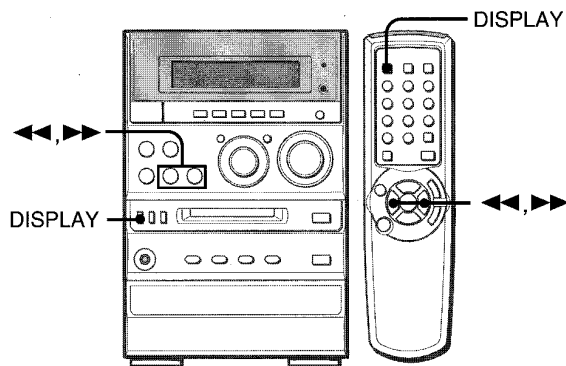
#### To start play when the power is off (Direct Play Function)

Press the **TAPE/REV MODE** button. The power is turned on and play of the loaded tape begins.

#### To set the tape counter to 0000

Press the button in stop mode.

The counter is also set to 0000 when the cassette compartment is opened.



### To change the display in stop mode

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Tape counter
- ② Remaining recordable time of MD (only when an MD is loaded)

(Example: Rem -48:07)

The remaining recordable time of MD changes automatically to the tape counter after 4 seconds.

### To change the display in playback mode

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Level indicator
- ② Tape counter
- ③ Remaining recordable time of MD (only when an MD is loaded)

(Example: Rem -48:07)

The remaining recordable time of MD changes automatically to the tape counter and then to the level indicator, after 4 seconds each.

## MUSIC SENSOR

If there is a 4-second or longer blank between each track, a search for the beginning of the current or next track during playback can be done easily.

**When the ◁ indicator on the display is appearing,** press the ◁ button to move to the next track or the ▷ button to move to the beginning of the current track.

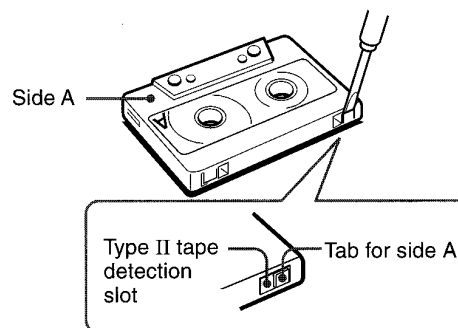
**When the ▷ indicator on the display is appearing,** press the ▷ button to move to the next track, or the ◁ button to move to the beginning of the current track.

The search function may not be able to detect tracks under the following conditions:

- Blanks of less than 4 seconds between tracks
- Noisy blanks
- Long passages of low-end sound
- Low overall recording levels

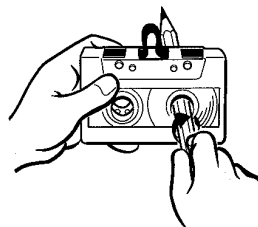
### About cassette tapes

- To prevent accidental erasure, break off the plastic tabs on the cassette tape after recording with a screwdriver or other pointed tool.



To record on the tape again, cover the tab openings with adhesive tape, etc. (On Type II tapes, take care not to cover the Type II tape detection slot.)

- **120-minute or longer tapes** are extremely thin and easily deformed or damaged. They are not recommended.
- **Take up any slack in the tape** with a pencil or similar tool before use. Slack tape may break or jam in the mechanism.



### DOLBY NR system

The Dolby Noise Reduction system reduces tape hiss noise. For optimum performance when playing back a tape recorded with the DOLBY NR system, turn on the DOLBY NR system.

## WHAT IS AN MD (MINI DISC)?

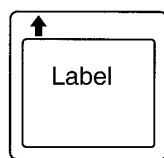
An MD is only 64 mm (2 5/8 inches) in diameter, about half the size of a conventional CD. But MD can be used to store and play back a full 74 minutes of data such as a CD. Unlike a CD, MD comes in a plastic cartridge, so that it can be handled with ease. The cartridge also protects the disc inside from shocks, dust and scratches. Unlike cassette tapes, which can become stretched or tangled, an MD is an excellent durable media.

### TYPE OF MD

There are two types of MDs: "Optical discs" and "Magneto-optical discs". Both types use laser beams and optical pick-up technology to read recorded data during playback.

#### Optical discs

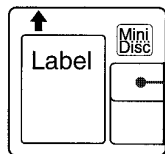
These are playback only discs. Like CDs, they are used as prerecorded music discs. You cannot record on or edit them.



The shutter covers the opening only on the non-labeled side of the MD.

#### Recordable MO\*1 discs

These are recordable discs which can be recorded on again and again, like cassette tapes. The recording method called magneto-optical technology employs a laser and magnetism to record signals. Therefore, the quality of recorded sound does not deteriorate even after many playbacks and recordings.



The shutter covers the opening on the both sides of the MD.

\*1 MO: An abbreviation of Magneto Optical

#### Ultra compact size made possible by ATRAC\*2 technology

A newly developed digital audio compression technology called the ATRAC system automatically extracts only the frequencies that are actually audible to the human ear and cuts the frequencies which are inaudible. This compresses the amount of data to be recorded to 1/5 of the normal amount. The ATRAC system is based upon studies carried out in the field of auditory psychology and does not impair the quality of the audible sound.

\*2 ATRAC: An abbreviation of Adaptive TTransform Acoustic Coding

#### Quick random access

One of the great features of the MD is that you can search for desired tracks quickly. There are also quick and easy functions for random playback in which the order of the tracks can be rearranged at random, and for renumbering tracks which enables them to be played in any order.

## THE LIMITATIONS OF MD

Recording on the MD is performed differently from that of a cassette tape or a DAT. Therefore, the MD system is subject to the following restrictions.

**"TOC\* Full" is displayed even if the recording time does not reach the maximum recordable time of the disc (60-minute or 74-minute).**

"TOC Full" is displayed when 254 tracks are already recorded on a disc, without respect of the recording time.

\*TOC: An abbreviation of Table Of Contents.

**"TOC Full" is displayed even if a disc is not fully recorded on.**

If there are lots of emphasis data in a particular track, the unit handles the data as index codes, and tracks are counted, in addition, without respect of the time and number of tracks.

**The remaining time on a disc is not increased even after some short tracks have been erased.**

When the remaining time on a disc is displayed, which may not be increased even after erasing short tracks because the sections less than eight seconds are not counted.

**Certain tracks cannot be joined (the COMBINE function does not function).**

- Tracks created by editing may not be joined.
- It is not possible to combine a track recorded in monaural and a track recorded in stereo.

**The total of the recorded time and the remaining time on a disc does not match with the maximum recordable time of the disc (60-minute or 74-minute).**

Recording is performed by the minimum unit of one cluster (two seconds). Even if the recorded section is shorter than two seconds, a two-second space is needed in recording. Therefore, the available time becomes shorter. If there are scratches on a disc, the available time becomes shorter as well, because the sections which are scratched are automatically erased.

**Track numbers may not be registered properly.**

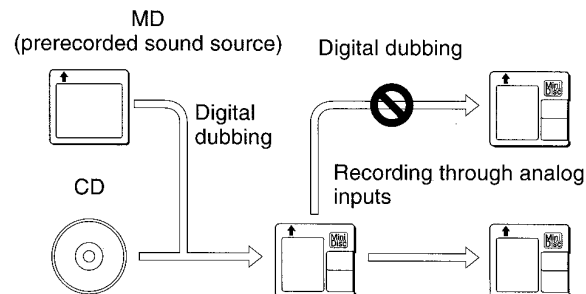
When recording from a CD through digital inputs (using the CD ► MD button), small tracks may be created depending on the contents of a CD.

When using the AUTO MARK function, track numbers may not be registered properly depending on the contents of the CD.

**Digital inputs may not be acceptable.**

When digital recording is attempted from recorded material with copyrights, digital dubbing cannot be performed to a recordable MD from another MD recorded in digital, because of the built-in record restriction function which complies with the SCMS\* standard.

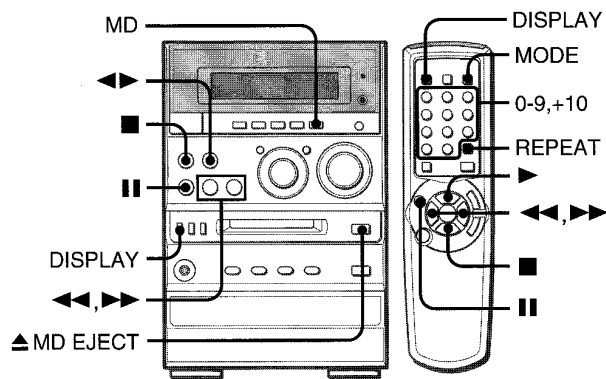
\* SCMS (Serial Copy Management System) is the standard to restrict single digital dubbing between the digital audio system thus protecting copyrights.



TAPE PLAYBACK  
MD PLAYING

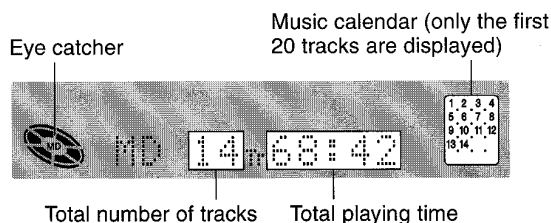
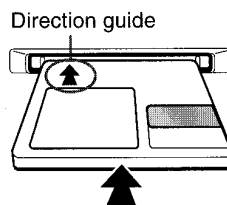
En

# OPERATION



## INSERTING AN MD

- 1 Press the MD button.
- 2 Insert a disc into the disc drive fully with the label side up and in the direction of the arrow.  
"TOC READING" appears on the display while the unit reads the data of the inserted disc. Then the information contained in the disc appears.



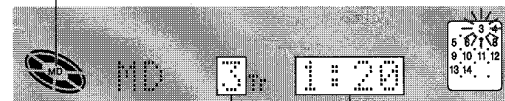
## PLAYING AN MD

Insert an MD.

**Press the ◀▶ button.**

Playback begins.

The inner circle of the eye catcher rotates.



### About the level indicator

The above display automatically changes to the level indicator after 4 seconds.

The level indicator shows an approximate playback sound level.



**To stop play, press the ■ button.**

**To pause, press the || button.** To resume play, press it again.

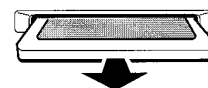
**To search for a particular point during playback, keep the ◀◀ or ▶▶ button pressed and release the button at the desired point.**

**To skip to the beginning of a track during playback, press the ◀◀ or ▶▶ button repeatedly or turn the MULTI JOG dial.** The unit skips forward through the tracks when turning it right, and skips back when turning it left.

**To eject a disc, press the ▲ MD EJECT button.**

Do not hold the disc when ejecting the disc.

The disc can be ejected by pressing the ▲ MD EJECT button even when the unit is turned off.



Pull the disc out.

### Selecting a track with the remote control

Press the number buttons and the +10 button to select a track.

#### Example:

To select the 25th track, press the +10, +10 and 5 buttons.

To select the 10th track, press the +10 and 0 buttons.

The selected track starts to play and play continues to the end of that disc.

### To start play when the power is off (Direct Play Function)

Press the MD button. The power is turned on and play of the inserted disc begins.

### To play a disc at the double speed

During play, keep the ◀▶ button pressed for more than two seconds.

To resume normal play, press the ◀▶ button again.

Stopping play with the ■ button also releases the double-speed playback mode.



### To change the display in stop mode

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Total number of tracks and total playing time of the MD  
(Example: MD 10Tr 58:31)
- ② Disc title  
(If the disc title is not registered, "No Title" is displayed.)
- ③ Remaining recordable time of MD  
(Example: Rem -48:07)

The remaining recordable time of MD changes automatically to the total number of tracks and total playing time after 4 seconds.

### To change the display in playback mode

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Level indicator
- ② Track number being played and elapsed playing time  
(Example: MD 3Tr 3:43)
- ③ Track title  
(If the track title is not registered, the track number is displayed.)
- ④ Remaining time of playback  
(Example: MD -26:15)

#### NOTE

- Nothing other than an MD should be inserted in the disc drive, otherwise the disc may become scratched, causing a malfunction or a safety hazard such as an electric shock.
- Do not attempt to insert another MD while a disc is already inside the drive. While a disc is already inserted inside with the power off, the inner circle of the eye catcher is displayed.
- Do not tilt the unit with a disc inserted. Doing so may cause malfunctions.

## RANDOM/REPEAT PLAY

Use the remote control.

### RANDOM play

All the tracks on the disc can be played randomly.

**Press the MODE button repeatedly until "RANDOM" lights up on the display.**

To cancel random play, press the MODE button repeatedly until the normal display appears and "RANDOM" disappears.

#### NOTE

- Even if the ◀◀ button is pressed or the MULTI JOG dial is turned, a previously played track cannot be skipped. The unit returns to the beginning of the current track only.
- When you select a track with the numbered buttons on the remote control during the random play mode, the selected track starts to play and the random play mode is canceled.

### REPEAT play

A single track or all tracks can be played back repeatedly.

**Press the REPEAT button repeatedly.**

"↺1" lights up when the single track repeat play is selected, and "↺" lights up when the all tracks repeat play is selected. To cancel repeat play, press the REPEAT button repeatedly until "↺" and "1" disappear.

### To repeat random play

First press the RANDOM button to activate random play. Then press the REPEAT button so that "↺" lights up.

## PROGRAMMED PLAY

Up to 30 tracks can be programmed from the inserted disc. Use the remote control.

**1 In stop mode, press the MODE button repeatedly until "PRGM" appears on the display.**

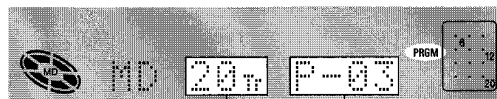


**2 Press the numbered buttons and the +10 button to program a track.**

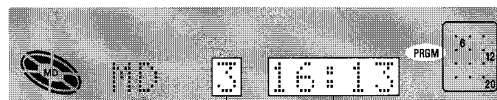
**Example:**

To select the 12th track, press the +10 and 2 buttons.

To select the 20th track, press the +10, +10 and 0 buttons.



Selected track number      Program number



Total number of  
selected tracks      Total playing time of  
the selected tracks

**3 Repeat step 2 to program other tracks.**

**4 Press the ► button to start play.**

### To check the program

Each time the ►► button is pressed in stop mode, a track number and program number will be displayed.

### To clear the program

Press the ■ button in stop mode.

### To add tracks to the program

Before playing, repeat step 2. The track will be programmed after the last track.

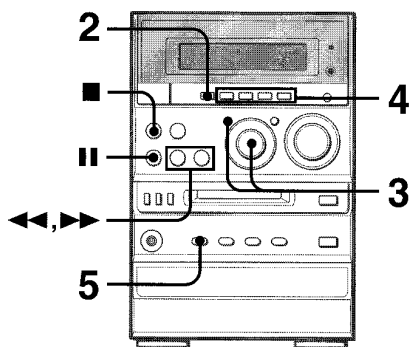
### To change the programmed tracks

Clear the program and repeat all the steps again.

#### NOTE

- During the programmed play, the MODE and numbered buttons do not function.
- Repeating programmed play is also possible.

## BASIC RECORDING

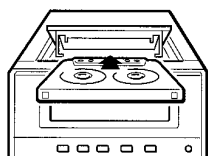


### Preparation

- Set the tape to the point where recording will start.
- Use Type I (normal) and Type II (high/CrO<sub>2</sub>) tapes for recording.

### 1 Load the tape to be recorded on into the deck.

Load the tape with the side to be recorded on first facing upward and the exposed side facing forward.



### 2 Press the TAPE/REV MODE button to select the reverse mode.

To record on one side only, select  $\Sigma$ .

To record on both sides, select  $\Sigma$  or  $\Sigma$ .

When recording from the rear of the tape, the tape stops at the end of recording of the rear side, even if the reverse mode is set to  $\Sigma$  or  $\Sigma$ .

### 3 Press the JOG MODE button repeatedly until "NR OFF" or "DOLBY NR ON" appears on the display. Then turn the MULTI JOG dial right or left to turn Dolby NR on or off within 6 seconds.

To record with DOLBY NR, turn the dial so that "DOLBY NR ON" is displayed. The  $\square\square$  NR indication also turns on.

To record without DOLBY NR, turn the dial so that "NR OFF" is displayed.

### 4 Press one of the function buttons and prepare the source to be recorded.

To record from a radio broadcast, press the TUNER/BAND button and tune in to a station.

To record from a CD or an MD, first press the CD or MD button and load the disc, then press the  $\blacktriangleleft$  or  $\blacktriangleright$  button or turn the MULTI JOG dial to select the track to be recorded first.

To record from the connected source, press the AUX/DIGITAL IN button and prepare to play.

### 5 Press the TAPE REC/REC MUTE button to start recording.

"TAPE REC" appears on the display.

When the selected source is CD or MD, playback and recording start simultaneously.

When the selected source is AUX/DIGITAL IN, start playback.

To stop recording, press the  $\blacksquare$  button. When recording from a CD or an MD, press the  $\blacksquare$  button again to stop playback.

To pause recording, press the  $\parallel$  button. (Applicable when the source is TUNER, AUX/DIGITAL IN.) To resume recording, press again.

## INSERTING BLANK SPACES

Insertion of a 4-second blank spaces enables activation of the Music Sensor function. (Applicable when the source is TUNER, or DIGITAL IN/AUX.)

### 1 Press the TAPE REC/REC MUTE button during recording or while in recording pause mode.

"TAPE REC" flashes for 4 seconds and the tape runs without recording. After 4 seconds, the deck enters the recording pause mode.

### 2 Press the $\parallel$ button to resume recording.

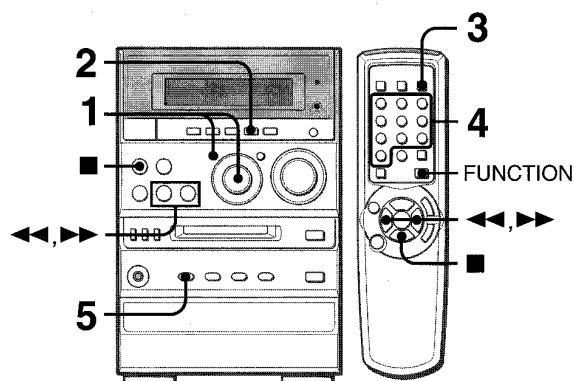
To insert a blank space of less than 4 seconds, press the TAPE REC/REC MUTE button again while "TAPE REC" is flashing.

To insert blank spaces of more than 4 seconds, after the deck enters recording pause mode, press the TAPE REC/REC MUTE button again. Each time the button is pressed, a 4-second blank space is added.

### To erase a recording

- 1 Insert the tape to be erased into the deck.
- 2 Set the tape to the point where the erasure is to be started.
- 3 Press the AUX/DIGITAL IN button.  
If an optional equipment is connected to the VIDEO/AUX jacks, turn it off.
- 4 Press the TAPE REC/REC MUTE button to start the erasure.

# AI EDIT RECORDING



The AI edit function enables CD recording without worrying about tape length and track length. When a CD is inserted, the unit automatically calculates track lengths. If necessary, the order of tracks is rearranged so that no track is cut short. (AI: Artificial Intelligence)

## NOTE

AI edit recording will not start from a point halfway into the tape. The tape must be recorded from the beginning of either side.

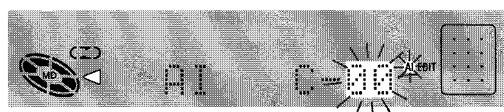
- 1 Insert the tape into the deck, and turn Dolby NR on or off by using the JOG MODE button and the MULTI JOG dial. (See "BASIC RECORDING step 3".)

Insert the tape with the side to be recorded on first facing upward.

- 2 Press the CD button on the main unit so that "CD" is displayed, and load the disc.

You can press the FUNCTION button on the remote control repeatedly to display "CD".

- 3 Press the MODE button repeatedly until "EDIT" lights up and "AI" flashes on the display.



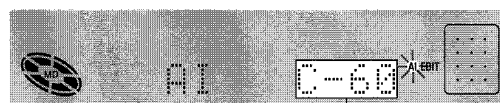
- 4 Press the numbered buttons to designate the tape length.

10 to 99 minutes can be specified.

**Example:** When using a 60-minute tape, press the 6 and 0 buttons.

In a few seconds, the microcomputer determines the tracks to be recorded on each side of the tape.

- The ◀◀ and ▶▶ buttons and the MULTI JOG dial are also available to designate the tape length.



Tape side A



Tape length



Number of programmed tracks

Remaining time of side A

- 5 Press the TAPE REC/REC MUTE button to start recording.

The tape is rewound to the beginning of the side facing upward, the lead segment is played through for 10 seconds, and recording starts. When recording on the side facing upward (side A) ends, recording on the opposite side (side B) starts.

## To stop recording

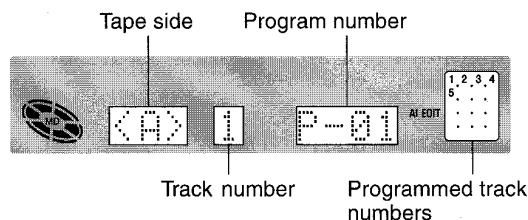
Press the ■ button. Recording and CD play stop simultaneously.

## To clear the edit program

Press the ■ button twice so that "EDIT" disappears on the display.

## To check the order of the programmed track numbers

Before recording, press the MODE button to select side A or B, and press the ▶▶ button repeatedly.



Track number

Programmed track numbers

## Time on cassette tapes and editing time

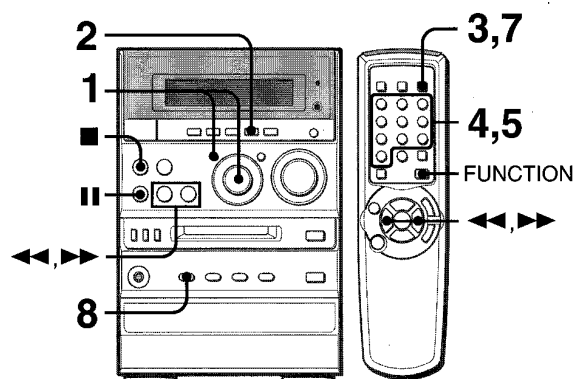
The actual cassette recording time is usually a little longer than the specified recording time printed on the label. This unit can program tracks to use the extra time.

## NOTE

- Recording is inhibited if the erasure prevention tab on either side of the tape is broken off.
- The AI edit function cannot be used with discs containing 31 tracks or more.



# PROGRAMMED EDIT RECORDING



Programmed edit function enables CD recording while checking the remaining time on each side of the tape as the tracks are programmed.

## NOTE

The programmed edit recording will not start from a point halfway in the tape. The tape must be recorded from the beginning of either side.

- 1 Insert the tape into the deck, and turn Dolby NR on or off by using the JOG MODE button and the MULTI JOG dial. ( See "BASIC RECORDING step 3" )**  
Insert the tape with the side to be recorded on first facing upward.

- 2 Press the CD button on the main unit so that "CD" is displayed, and load the disc.**  
You can press the FUNCTION button on the remote control repeatedly to display "CD".

- 3 Press the MODE button repeatedly until "EDIT" lights up and "PRGM" flashes on the display.**

- 4 Press the numbered buttons to designate the tape length.**

10 to 99 minutes can be specified.

**Example:** When using a 60-minute tape, press the 6 and 0 buttons.

- The ◀▶ and ▶▶ buttons and the MULTI JOG dial are also available to designate the tape length.

Tape side A (front side)

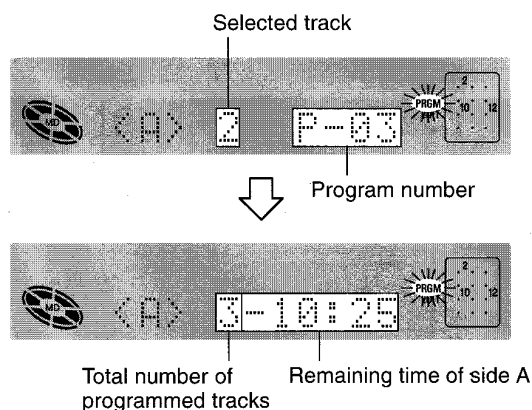


Maximum recording time for side A

- 5 Press the numbered buttons to program a track.**  
**Example:** To select the 10th track, press the numbered buttons +10 and 0.

- 6 Repeat step 5 for the rest of the tracks for side A.**

A track whose playing time is longer than the remaining time cannot be programmed.



- 7 Press the MODE button to select side B and program the tracks for side B.**

After confirming B on the display, repeat step 5.

Tape side B (opposite side)



- 8 Press the TAPE REC/REC MUTE button to start recording.**

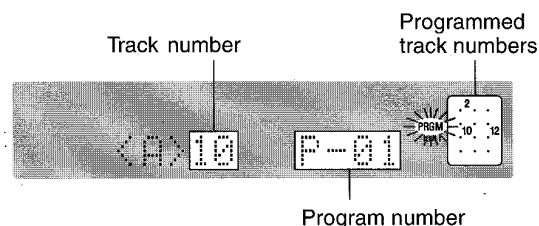
The tape is rewound to the beginning of the side facing upward, the lead segment is played through for 10 seconds, and recording starts. When recording on the side facing upward (A) ends, recording on the opposite side (B) starts.

## To stop recording

Press the ■ button. Recording and CD play stop simultaneously.

## To check the order of the programmed track numbers

Before recording, press the MODE button to select side A or B, and press the ▶▶ button repeatedly.



## To change the program of each side

Press the MODE button to select side A or B, and press the ■ button to clear the program of the selected side. Then program tracks again.

## To clear the edit program

Press the ■ button repeatedly so that "EDIT" disappears on the display.

## NOTE

Recording is inhibited if the erasure prevention tab on either side of the tape is broken off.



## VARIOUS WAYS OF MD RECORDING

### Recording through digital inputs

Digital recording of CD audio signals to MDs gives recordings with no degradation in sound quality. You can use any of the following methods to record from CDs to MDs.

- Record a complete CD onto an MD
- Record only one track from a CD
- Record your favorite CD tracks in any order

### Recording through analog inputs

Recording through analog inputs from the tuner, cassette tape or the external equipment connected to the VIDEO/AUX jacks can be made easily. Recording through analog inputs from a CD is also possible.

### Extended recording

Twice as long as the time printed on the MD can be obtained by using the monaural recording mode.

### NOTE

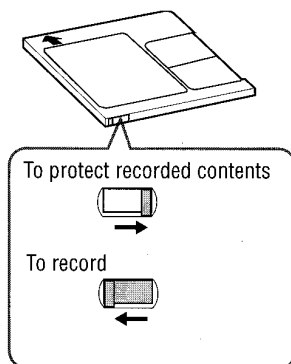
- Nothing other than an MD should be inserted in the disc drive, otherwise the disc may become scratched, causing a malfunction.
- Do not give a strong shock or disconnect the AC cord during recording or a TOC\* recording. Doing so may cause the errors in the TOC recording and the contents cannot be played back.
- During recording, the outer circle of the eye catcher lights up in red.

\* TOC : An abbreviation of Table Of Contents

The TOC data functions as a coded index of the recorded material. The unit records the TOC data such as a playing time and recorded address on an MD.

### To prevent accidental erasure of recorded material

Slide the record-protect tab as shown below.  
Slide the tab so that it is completely locked.



If a recording is attempted when the tab is set to the protected position, "Protected" appears on the display. Move the protect-tab to the original position.

## ABOUT THE INDEX MARK

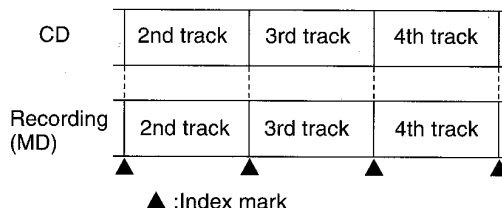
You can easily select the desired tracks by registering index marks during recording.

Choose the appropriate method to register index marks.

### AUTO MARK FUNCTION

**When recording from a CD using the CD ► MD button**

The index mark information recorded on the CD is copied.

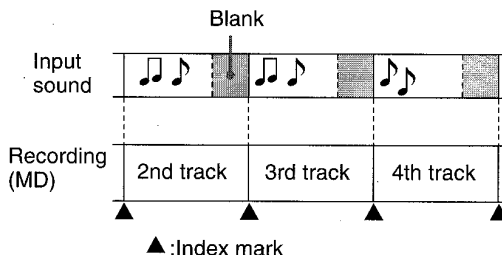


The auto mark function is applied in the following cases:

- When recording a whole CD onto an MD (page 22)
  - When recording one track of a CD onto an MD (page 23)
  - When performing programmed recording of a CD (page 24)
- You cannot add the index marks using the time mark function and manual mark function described below.

### When recording CDs or other sources using the MD REC button

An index mark is registered automatically when a sound signal is input after a blank section lasting more than 2 seconds.



### TIME MARK FUNCTION

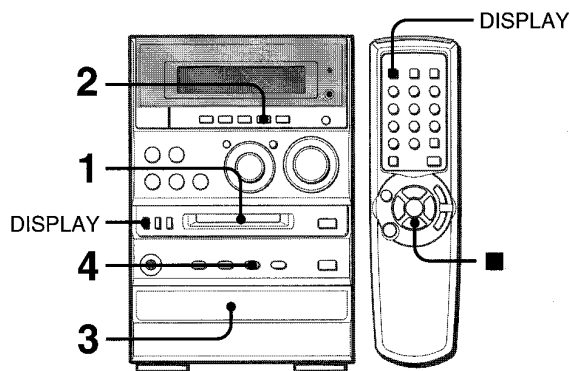
When recording CDs or other sources using the MD REC button (pages 25 and 26), you can optionally record index mark information at an interval of 5 minutes.

This makes it easy to locate recorded radio broadcast material, etc.

### MANUAL MARK FUNCTION

When recording CDs or other sources using the MD REC button (pages 25 and 26), you can record index mark information anytime you want by pressing the ENTER button.

# RECORDING A WHOLE CD

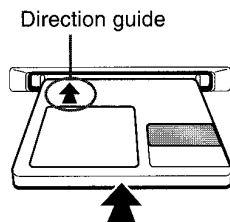


## To check the recordable time of the MD

Press one of the function buttons other than MD and load an MD. Then press the DISPLAY button. (When you press the TUNER/BAND button and the display shows the level indicator, press the DISPLAY button twice.)

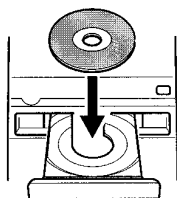
The recordable time on the MD is displayed.

- 1 Load a recordable MD into the disc drive with the label side up and in the direction of the arrow.

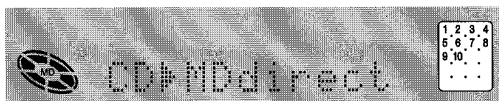


- 2 Press the CD button.

- 3 Load the CD to be recorded.



- 4 Press the CD ► MD button to start recording.



Recording stops automatically when the music on the CD ends. When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

## To stop recording before the end of the CD

Press the ■ button. Recording to the MD stops, and the contents (TOC) of the recording are recorded on the MD.

To stop play of the CD, press the ■ button again.

## To record on a previously recorded MD

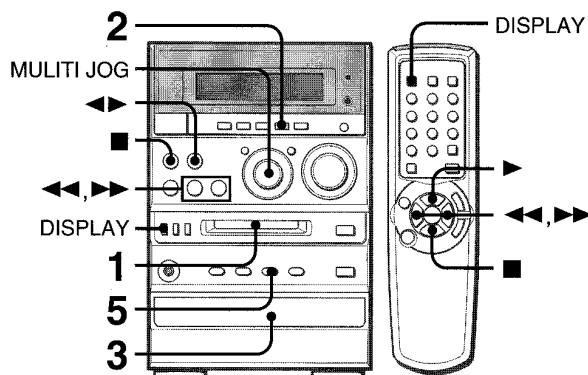
If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished. If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 31.)

## To change the display during recording

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Level indicator for CD
- ② Track number and elapsed time of CD  
(Example: CD 1Tr 1:23)
- ③ Remaining playback time of CD  
(Example: CD -32:37)
- ④ Recordable time on MD  
(Example: MD -36:15)
- ⑤ Track number and elapsed recording time of MD  
(Example: MD 5Tr 2:27)

# RECORDING ONLY ONE TRACK OF A CD

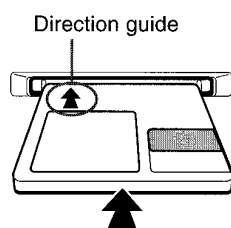


## To check the recordable time of the MD

Press one of the function buttons other than MD and load an MD. Then press the DISPLAY button. (When you press the TUNER/BAND button and the display shows the level indicator, press the DISPLAY button twice.)

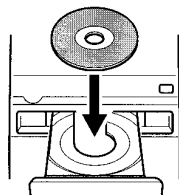
The recordable time on the MD is displayed.

- 1 Load a recordable MD into the disc drive with the label side up and in the direction of the arrow.**



- 2 Press the CD button.**

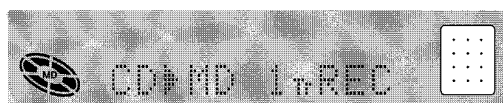
- 3 Load the CD to be recorded.**



- 4 Play back the track to record.**

Press the numbered buttons on the remote control. Or select the track with the ◀◀ / ▶▶ buttons or the MULTI JOG dial and press the ▶ button.

- 5 Press the CD ▶ MD button to start recording.**



Recording stops automatically when the track ends. When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

## To stop recording before the end of the track

Press the ■ button. Recording to the MD stops, and the contents (TOC) of the recording are recorded on the MD.

To stop play of the CD, press the ■ button again.

## To record on a previously recorded MD

If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished. If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 31.)

## To change the display during recording

Press the DISPLAY button. With each press of the button, the display changes in the following order.

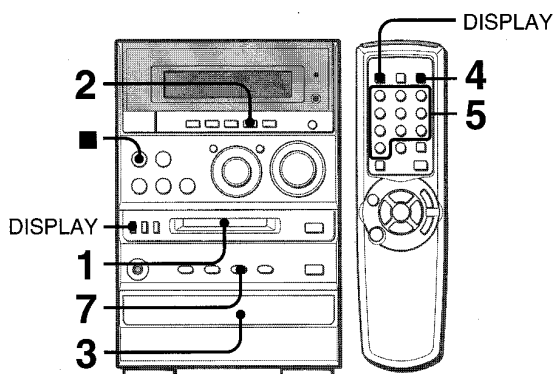
- ① Level indicator for CD
- ② Track number and elapsed time of CD  
(Example: CD 1Tr 1:23)
- ③ Recordable time on MD  
(Example: MD -36:15)
- ④ Track number and elapsed recording time of MD  
(Example: MD 5Tr 2:27)

MD RECORDING

En

# PROGRAMMED RECORDING OF A CD

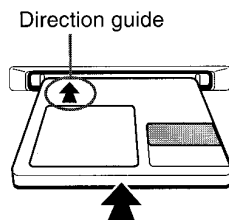
Up to 30 tracks can be programmed and recorded on an MD.



## To check the recordable time of the MD

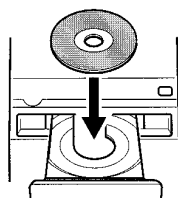
Press one of the function buttons other than MD and load an MD. Then press the DISPLAY button. (When you press the TUNER/BAND button and the display shows the level indicator, press the DISPLAY button twice.) The recordable time on the MD is displayed.

- 1 Load a recordable MD into the disc drive with the label side up and in the direction of the arrow.



- 2 Press the CD button.

- 3 Load the CD to be recorded.



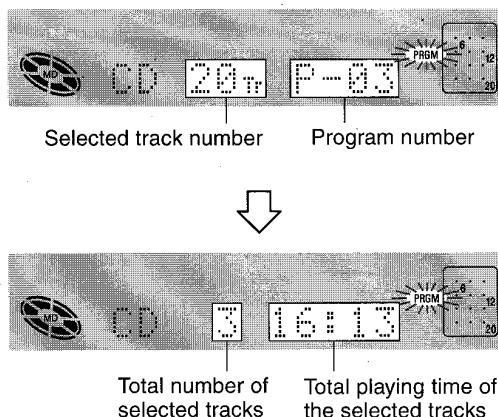
- 4 Press the MODE button on the remote control repeatedly until "PRGM" flashes on the display.

- 5 Press the numbered button and the +10 button to program a track to record.

## Example:

To select the 12th track, press the +10 and 2 buttons.

To select the 20th track, press the +10, +10 and 0 buttons.



- 6 Repeat step 5 to program other tracks.

- 7 Press the CD ► MD button to start recording.

Recording begins.

When the programmed tracks finish playing, the recording stops automatically.

Then "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded to the MD.

## To stop recording halfway

Press the ■ button. Recording to the MD stops, and the contents (TOC) of the recording are recorded on the MD.

To stop play of the CD, press the ■ button again.

## To record on a previously recorded MD

If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished. If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 31.)

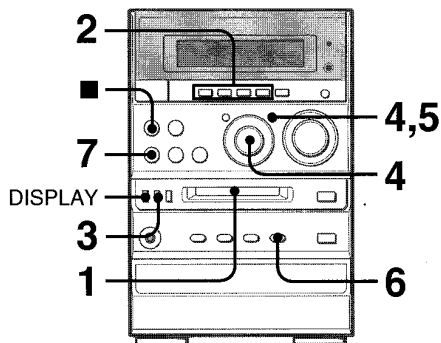
## To change the display during recording

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Level indicator for CD
- ② Track number and elapsed time of CD  
(Example: CD 1Tr 1:23)
- ③ Recordable time on MD  
(Example: MD -36:15)
- ④ Track number and elapsed recording time of MD  
(Example: MD 5Tr 2:27)



# RECORDING FROM A TAPE, THE RADIO OR CONNECTED EQUIPMENT

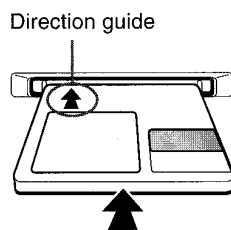


## To check the recordable time of the MD

Press one of the function buttons other than MD and load an MD. Then press the DISPLAY button. (When you press the TUNER/BAND button and the display shows the level indicator, press the DISPLAY button twice.)

The recordable time on the MD is displayed.

## 1 Load a recordable MD into the disc drive with the label side up and in the direction of the arrow.



## 2 Press one of the function buttons and prepare the source to be recorded.

- To record from a tape, press the TAPE/REV MODE button and insert a tape.
- To record from the radio, press the TUNER/BAND button and tune in to a station.
- To record from equipment connected to the VIDEO/AUX jacks or DIGITAL IN jack, press the AUX/DIGITAL IN button.
- To record from a CD, press the CD button and load a CD.

## 3 Press the MD MODE button.

"Mark MODE?" is displayed for 10 seconds.



## 4 Within 10 seconds, press the ENTER button and turn the MULTI JOG dial to select an index mark mode.

To register index marks automatically at the beginning of each track, select "Mark: AUTO?".

To register index marks every 5 minutes, select "Mark: TIME?".

To record without index marks, select "Mark: OFF?".

## 5 Within 10 seconds, press the ENTER button.

## 6 Press the MD REC button.

The unit enters the standby mode. Wait until the source name selected at step 2 is displayed.



## 7 Press the II button to start recording.

When recording from connected equipment, start playback of the connected equipment.

## To stop recording

Press the ■ button. When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

## To add index marks during recording

Press the ENTER button, and an index mark is registered regardless of the index mark mode selected at step 4.

## To record on a previously recorded MD

If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished. If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 31.)

## To change the display during recording

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ➔ ① Level indicator for the source
- ② Source  
(Example: AUX)
- ③ Recordable time on MD  
(Example: MD -36:15)
- ④ Track number and elapsed recording time of MD

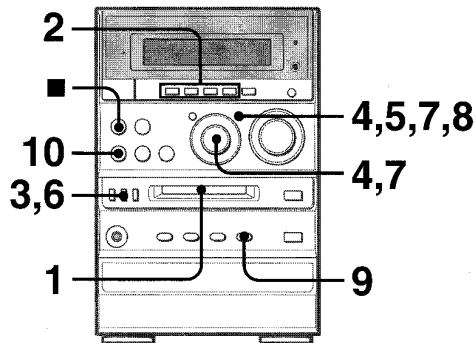
However, see page 22 for the display when the source is a CD.

MD RECORDING

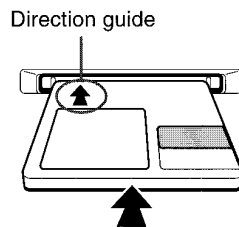
En

# EXTENDED (MONAURAL) RECORDING

Twice as long as the time printed on the MD can be obtained if you select the monaural recording mode.



- 1 Load a recordable MD into the disc drive with the label side up and in the direction of the arrow.

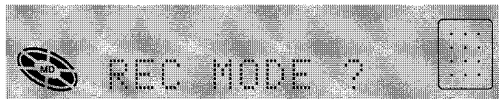


- 2 Press one of the function buttons and prepare the source to be recorded.

- To record from a tape, press the TAPE button and insert a tape.
- To record from the radio, press the TUNER/BAND button and tune in to a station.
- To record from equipment connected to the VIDEO/AUX jacks or DIGITAL IN jack, press the AUX/DIGITAL IN button.
- To record from a CD, press the CD button and load a CD.

- 3 Press the MD MODE button twice.

"REC MODE?" is displayed for 10 seconds.



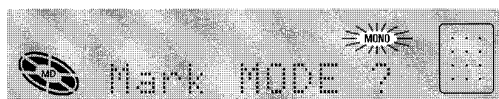
- 4 Within 10 seconds, press the ENTER button and turn the MULTI JOG dial so that "REC:MONO?" is displayed.

- 5 Within 10 seconds, press the ENTER button.

"MONO" flashes on the display.

- 6 Press the MD MODE button.

"Mark MODE?" is displayed for 10 seconds.



- 7 Within 10 seconds, press the ENTER button and turn the MULTI JOG dial to select an index mark mode.

To register index marks automatically at the beginning of each track, select "Mark: AUTO?".

To register index marks every 5 minutes, select "Mark: TIME?".

To record without index marks, select "Mark: OFF?".

- 8 Within 10 seconds, press the ENTER button.

- 9 Press the MD REC button.

The unit enters the standby mode. Wait until the source name selected at step 2 is displayed.



- 10 Press the **II** button to start recording.

When recording from connected equipment, start playback of the connected equipment.

## To stop recording

Press the **■** button. When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

## To add index marks during recording

Press the ENTER button, and an index mark is registered regardless of the index mark mode selected at step 7.

## To record on a previously recorded MD

If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished. If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 31.)

## To cancel the extended recording mode

If "MONO" flashes on the display, proceed as follows to cancel the extended (monaural) recording mode.

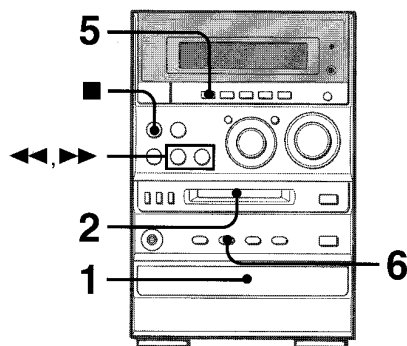
- 1 Press the MD MODE button twice, and within 10 seconds, press the ENTER button.

"REC STEREO?" is displayed.

- 2 Within 10 seconds, press the ENTER button.

"MONO" disappears on the display.

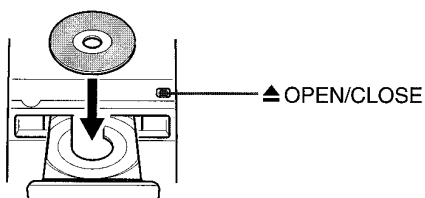
# SIMULTANEOUS RECORDING TO TAPE AND MD FROM CD



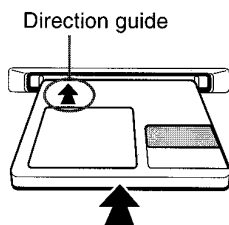
- To record on a previously recorded MD, the new recording automatically starts from where the previous recording finished.
- Set the tape to the point where recording will start.
- You can select the reverse mode (recording on one side or recording on both sides).

If you select the recording on both sides, during the time of changing tape side, the CD playback continues.

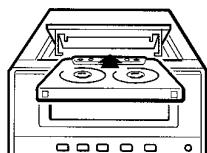
## 1 Load a CD to be recorded.



## 2 Load a recordable MD into the disc drive.



## 3 Load the tape to be recorded on into the deck.



## 4 Set the tape to the point where recording will start with the <<>, <<< or >>> button, and stop the tape with the ■ button.

## 5 Press the TAPE/REV MODE button to select the reverse mode.

To record on one side only, select <<<.

To record on both sides, select <<< or >>>.

- When recording from the rear of the tape, the tape stops at the end of recording of the rear side, even if the reverse mode is set to <<< or >>>.

## 6 Press the CD▶MD & TAPE button.

When the CD playback begins, recording to MD and tape starts simultaneously.

- If a tape is not loaded on the deck or an MD is not loaded, CD▶MD & TAPE does not function.

## When the CD playback ends

Recording to MD and tape ends automatically.

## At the end of recording of the MD or tape

When the MD is recorded to the end, but the tape is still recordable, the recording continues.

When the tape is recorded to the end, but the MD is still recordable, the recording continues.

When both the MD and tapes are recorded to the end and if CD playback still continues, stop it with the ■ button.

To stop recording, press the ■ button.

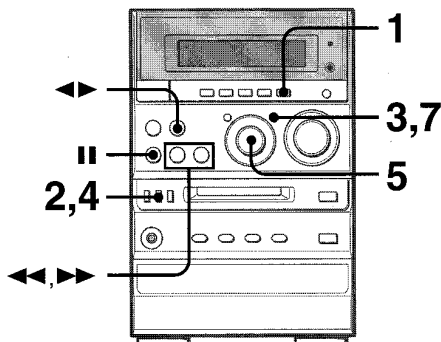
## To change the display during recording

Press the DISPLAY button. With each press of the button, the display changes in the following order.

- ① Level indicator for CD
- ② Track number and elapsed time of CD  
(Example: CD1Tr 1:23)
- ③ Remaining playback time of CD  
(Example: CD -32:37)
- ④ Recordable time on MD  
(Example: MD -36:15)
- ⑤ Track number and elapsed recording time of MD  
(Example: MD 5Tr 2:27)

## REGISTERING THE DISC TITLE AND TRACK TITLE

You can register the titles of the discs and tracks. The registered disc title and track titles can be displayed using the DISPLAY button. See page 17 for detailed explanation.



**1 Press the MD button and load an MD to register the disc or track title.**

**2 To register a disc title, press the MD MODE button in stop mode.**

"Disc title?" is displayed for 10 seconds.



**To register a track title, select a track to register the title using the ◀◀ or ▶▶ button, the MULTI JOG dial, or the numbered buttons on the remote control. Then press the MD MODE button.**

"Title?" is displayed for 10 seconds.

**Example:** When registering a title for the 3rd track

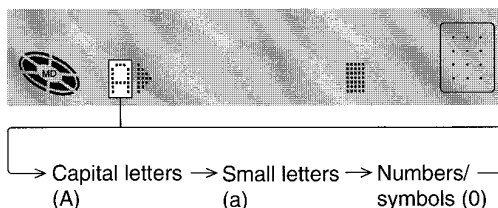


**3 Within 10 seconds, press the ENTER button.**

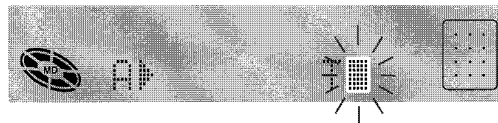
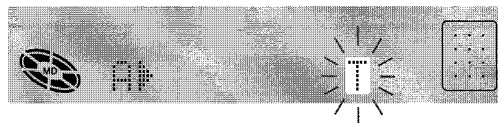
The unit turns into character entry mode.

**4 Press the MD MODE button repeatedly to select the kind of character.**

Each time the MD MODE button is pressed, the kind of character changes in the following order.



**5 Turn the MULTI JOG dial to select a desired character, then press the ▶▶ button.**



When you press the ▶▶ button, the selected character moves one column to the left.

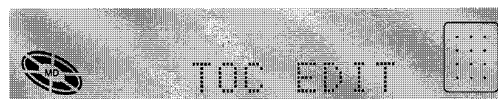
**6 Repeat steps 4 and 5 to enter all the required characters (up to 50 characters).**

If you leave the unit without performing any operation for one minute in steps 4 and 5, the character entry mode will be canceled. If this happens, repeat from step 2.

**7 Press the ENTER button.**

**8 Remove the MD from the unit.**

"TOC EDIT" is displayed and the entered title is registered.



### To change a character

Press the ◀◀ or ▶▶ button repeatedly until the character to be changed flashes. Then enter the desired character again.

### To delete characters

Press the ◀◀ or ▶▶ button repeatedly until the character to be deleted flashes. Then press the || button.

### To insert a space between the characters

Press the ◀◀ or ▶▶ button repeatedly until the part to be entered as a space flashes. Then press the ◀▶ button.

### To add a character between two characters

First, insert a space between two characters as described above. Then change the space to the desired character by entering it.

### NOTE

- While "TOC EDIT" is displayed, do not disconnect the AC cord or do not give a strong shock to the unit. If this happens, the data of TOC will not be recorded properly and the edited contents on a disc will not be able to be played.
- A title cannot be registered in the following cases:
  - When a prerecorded disc is inserted ("PB DISC" appears on the display.)
  - When the protect-tab on an inserted disc is moved to the protected position ("Protected" appears on the display.)
  - During random play or programmed play



## CHARACTERS THAT CAN BE REGISTERED

### Capital letters

□ (space) A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

### Small letters

□ (space) a b c d e f g h i j k l m n o p q r s t u v w x y z

### Numbers and symbols

□ (space) 0 1 2 3 4 5 6 7 8 9 ! " # \$ % & ' ( ) \* + , - . / : ; < = > ? @ \_ `

**5 Adjust the point to be divided with the MULTI JOG dial referring to the playback sound.**

**6 Press the ENTER button.**

An index mark is registered and the track number advances by one.

**7 Remove the MD from the unit.**

"TOC EDIT" is displayed and the data concerning the contents of the editing are registered.

### NOTE

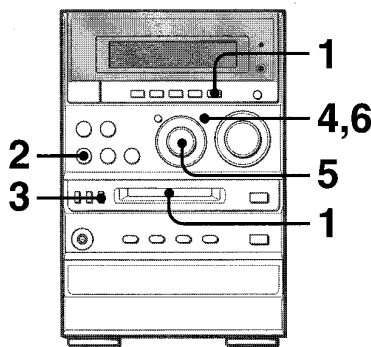
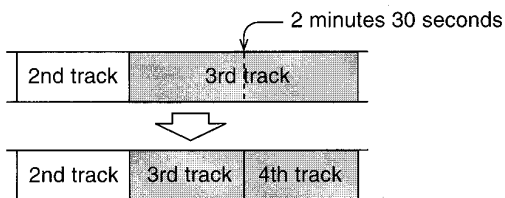
- If the track had a title before the division, the title is assigned to the first of the two divided tracks.
- A track cannot be divided when an inserted disc already contains 254 tracks.

## DIVIDING A TRACK

You can divide a track into two tracks by registering an index mark.

### Example

To divide the 3rd track into two tracks at 2 minutes 30 seconds:



**1 Press the MD button and load an MD.**

**2 During playback, press the **II** button at the point where you want to divide the track.**

The unit enters the playback pause mode.

**3 Press the MD EDIT button so that "Divide" is displayed.**

"Divide" is displayed for 10 seconds.

**Example:**

When dividing the 3rd track



**4 Within 10 seconds, press the ENTER button.**

The unit plays repeatedly the 2 seconds after the point where you pressed the **II** button.

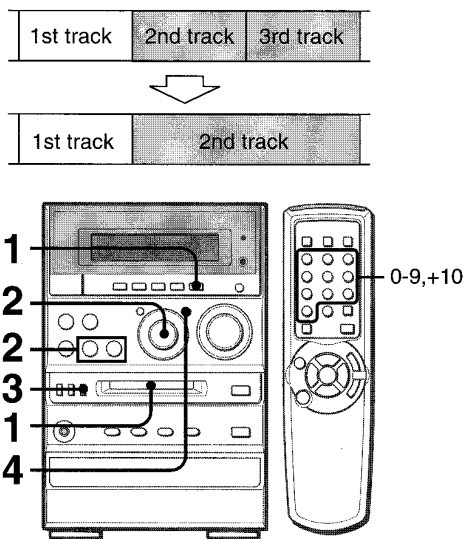
En

## COMBINING TWO TRACKS

You can combine two tracks by erasing the index mark in between.

### Example

To combine the 2nd track and the 3rd track by erasing the index mark at the beginning of the 3rd track:



- 1 Press the MD button and load an MD.
- 2 Select or play back the latter track of the two tracks to be combined using the ◀◀ or ▶▶ button, the MULTI JOG dial, or the numbered buttons on the remote control.

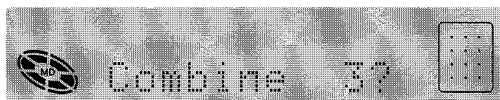
### Example:

To combine the 2nd and 3rd tracks, select or play back the 3rd track.

- 3 Press the MD EDIT button repeatedly so that "Combine" is displayed.

### Example:

When combining the 2nd and 3rd tracks



- 4 Within 10 seconds, press the ENTER button.  
The two tracks are combined.  
The track numbers from this point forward are decreased by 1.

- 5 Remove the MD from the unit.

"TOC EDIT" is displayed and the data concerning the contents of the editing are registered.

### NOTE

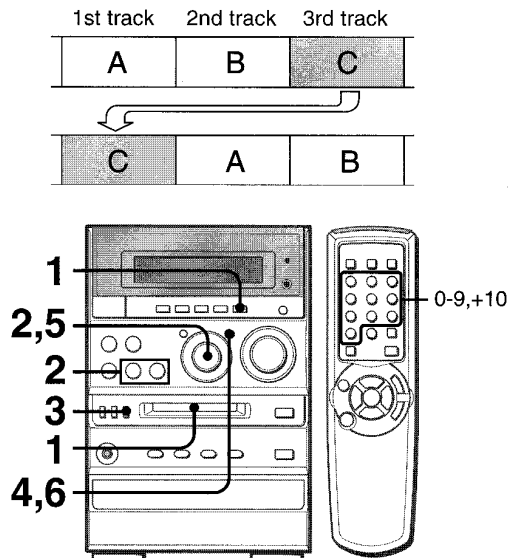
- If both of the tracks are titled, the title of the lower numbered track remains. If only one track is titled on the tracks to be combined, this title remains.
- You cannot combine a track recorded in monaural and a track recorded in stereo.

## CHANGING THE ORDER OF THE TRACKS

You can change the order of tracks after completing a recording.

### Example

To move the 3rd track to the 1st position



- 1 Press the MD button and load an MD.
- 2 Select or play back the track to be moved using the ◀◀ or ▶▶ button, the MULTI JOG dial or the numbered buttons on the remote control.

- 3 Press the MD EDIT button repeatedly so that "Move" is displayed.

### Example:

When moving the 3rd track



- 4 Within 10 seconds, press the ENTER button.
- 5 Turn the MULTI JOG dial to select the desired track number to move the track to.

### Example:

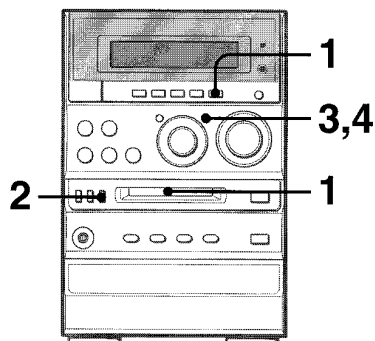
When moving to the 1st position



- 6 Within 10 seconds, press the ENTER button.
- 7 Remove the MD from the unit.  
"TOC EDIT" is displayed and the data concerning the contents of the editing are registered.

# ERASING TRACKS

## ERASING ALL TRACKS ON A DISC



### NOTE

If you erase all the tracks, you cannot retrieve them again.

- 1 Press the MD button and load an MD.
- 2 In stop mode, press the MD EDIT button repeatedly until "Erase All?" is displayed.



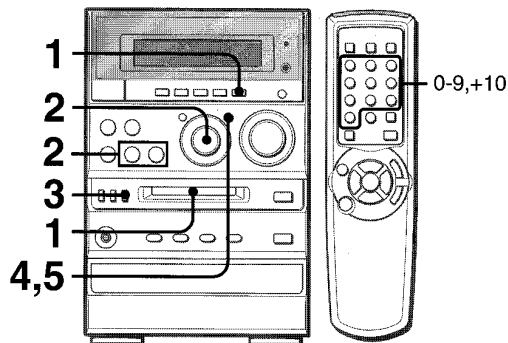
- 3 Within 10 seconds, press the ENTER button.  
The display changes to "Erase?All?".



Make sure that it is all right to erase all tracks.  
To cancel erasing tracks, press the ■ button.

- 4 Within 1 minute, press the ENTER button.  
"TOC EDIT" is displayed and all tracks on the inserted disc are erased.  
After completion of the erasure, "Blank Disc" is displayed.

## ERASING A SINGLE TRACK



- 1 Press the MD button and load an MD.
- 2 Select or play back the track to be erased using the ◀◀ or ▶▶ button, the MULTI JOG dial or the numbered buttons on the remote control.

- 3 Press the MD EDIT button repeatedly so that "Erase" is displayed.

Example:

When erasing the 3rd track



- 4 Within 10 seconds, press the ENTER button.  
The display changes to "Erase?".



Make sure that it is all right to erase the track.  
To cancel erasing the track, press the ■ button.

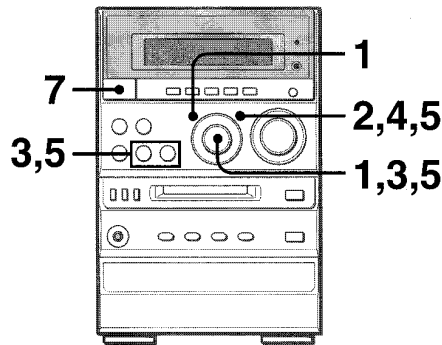
- 5 Within 1 minute, press the ENTER button.  
The selected track is erased and all the succeeding track numbers are decreased by 1.  
"TOC EDIT" is displayed and the data concerning the contents of the editing are registered.

MD EDITING

En



# TIMER PLAY AND TIMER RECORDING



The unit can be turned on at a specified time every day with the built-in timer.

Make sure the clock is set correctly. (See page 6.)

## Preparation for timer recording

- To record from a radio broadcast, press the TUNER/BAND button to select FM or AM.
- To record from connected equipment, press the AUX/DIGITAL IN button to select "D-IN" (for the equipment connected to the DIGITAL IN jack) or "AUX" (for the equipment connected to the VIDEO/AUX jacks).

It is possible to change the band and select a station, or re-select the connected equipment, that is, "D-IN" or "AUX," at step 6 below.

## 1 Select the timer playback or the timer recording.

Press the JOG MODE button repeatedly so that "TIMER" is displayed, and within 6 seconds, turn the MULTI JOG dial to select the timer playback or the timer recording.



"TIMER ○ PLAY" for timer playback

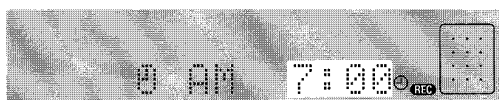
"TIMER ○ REC" for timer recording

## 2 Within 6 seconds, press the ENTER button.

Time and audio source display flash alternately.

## 3 Set the timer-on time.

Turn the MULTI JOG dial to the right to advance the time and turn it to the left to move the time back. The speed with which the time changes varies according to how fast you turn the MULTI JOG dial. You can also press the ◀◀ or ▶▶ button. Holding these buttons down will vary the time in 10-minute units.



## 4 Select a source for timer play, or a source and a recording destination (Tape or MD) for timer recording.

### When selecting timer play

Press one of the function buttons corresponding to the desired source and press the ENTER button.

### When selecting timer recording

Press the TUNER/BAND button or the AUX/DIGITAL IN button to specify the source, and press the TAPE button or the MD button to specify the recording destination, and then press the ENTER button.

The display will show one of the followings:

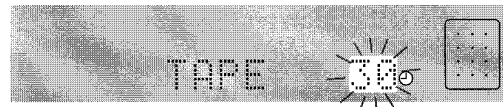
**FM (or AM) ▶ MD:** when recording from a radio broadcast on an MD

**FM (or AM) ▶ TP:** when recording from a radio broadcast on a tape

**AUX (or D-IN) ▶ MD:** when recording from connected equipment on an MD

**AUX (or D-IN) ▶ TP:** when recording from connected equipment on a tape

## 5 Select the duration for the timer-activated period with the ◀◀ or ▶▶ button or the MULTI JOG dial, and press the ENTER button.



The duration for the timer-activated period can be set between 5 and 240 minutes in 5-minute steps.

## 6 Prepare the source and the recording destination.

**To listen to a CD,** load the disc.

**To listen to a tape,** load the tape into the deck.

**To listen to a radio broadcast,** select the desired band and tune in to a station.

**To listen to an MD,** insert the MD.

**To listen to the connected equipment,** set the timer of the connected source (with an external timer) and prepare for the play.

**To record from a radio broadcast on a tape or an MD,** select the desired band and tune in to a station and load the tape or insert the MD.

**To record from the connected equipment on a tape or an MD,** set the timer of the connected source (with an external timer) and prepare for the play, then load the tape or insert the MD.

## 7 Press the POWER button to turn the unit off after adjusting the volume and tone.

○ or ○ **REC** remains on the display after the power is turned off (timer standby mode).

Note, however, that everything on the display will clear if the power economizing mode (see page 7) is activated. To confirm the timer standby mode, press the DEMO/ECO button to turn off the power economizing mode.



When the timer-on time is reached, the unit turns on and begins play (or recording) with the selected source.

If the volume level was set to higher than 21 when the power was turned off, it is automatically set to 21 when the unit turns on by the timer.

However, when power economizing mode (page 7) has been turned on, the volume for timer recording will be 0 (minimum level). Press the DEMO/ECO button to cancel power economizing mode and monitor the sound being recorded.



### To check the specified time and source

Press the JOG MODE button again and display the timer mode you have selected, then press the ENTER button. The selected source name, the timer-on time and the duration for the timer-activated period are displayed. Press the JOG MODE button to return to the previous display.

### To change the timer setting

Set the timer again from the beginning.

### To cancel timer standby mode temporarily

Press the JOG MODE button to display the timer mode, then turn the MULTI JOG dial to display "TIMER OFF." And then press the ENTER button within 6 seconds.

To restore the timer standby mode, select "TIMER ⊖ REC" or "TIMER ⊖ PLAY" instead of "TIMER OFF."

### Using the unit while the timer is set

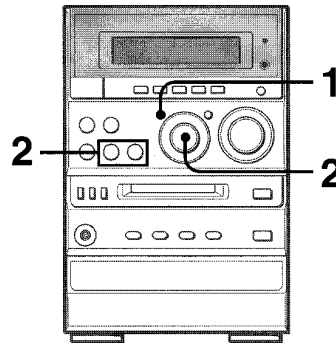
You can use the unit normally after setting the timer.

Before turning off the power, repeat step 6 to prepare the source and the recording destination, and adjust the volume and tone.

### NOTE

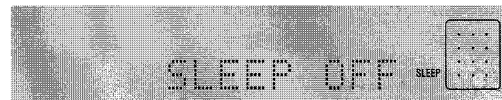
- Timer play and timer recording will not begin unless the power is turned off.
- Connected equipment cannot be turned on and off by the built-in timer of this unit. Use an external timer.

## SETTING THE SLEEP TIMER



The unit can be turned off automatically at a specified time.

- 1 Press the JOG MODE button repeatedly so that "SLEEP OFF" is displayed.



- 2 Within 6 seconds, press the ◀◀ or ▶▶ button or turn the MULTI JOG dial to specify the time until the power is turned off.

Each time the button is pressed, the time changes between 5 and 240 minutes in 5-minute steps.



Specified time

### To check the time remaining until the power is turned off

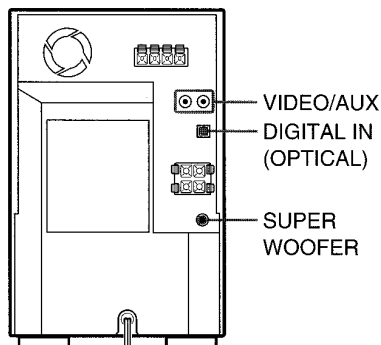
Press the JOG MODE button repeatedly so that "SLEEP xx" (xx is the time until the power is turned off.) is displayed. The remaining time is displayed for 4 seconds.

### To cancel the sleep timer

Press the JOG MODE button repeatedly so that "SLEEP xx" is displayed. Then press the ◀◀ or ▶▶ button or turn the MULTI JOG dial to display "SLEEP OFF." The "SLEEP" on the display disappears.

En

## CONNECTING OPTIONAL EQUIPMENT



Refer to the operating instructions of the connected equipment for details.

- The connecting cords are not supplied. Obtain the necessary connecting cords.
- Consult your local Aiwa dealer for optional equipment.

### VIDEO/AUX JACKS

This unit can input analog sound signals through these jacks. Use a cable with RCA phono plugs to connect audio equipment (turntables, LD players, VCRs, TV, etc.). Connect the red plug to the R jack, and the white plug to the L jack.

#### When connecting a turntable

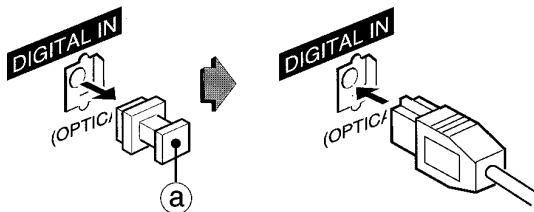
Use an Aiwa turntable equipped with a built-in equalizer amplifier.

### DIGITAL IN (OPTICAL) JACK

This unit can input digital sound signals through this jack. This unit has a built-in sampling frequency rate converter, which converts the sampling frequency rates that are different from the MD sampling frequency rate (BS/CS tuner, DAT and other digital signals) into a sampling frequency rate that can be recorded on an MD.

Use an optical cable to connect digital audio source equipment (DAT deck, MD player, etc.).

Remove the dust cap (a) from **DIGITAL IN (OPTICAL)** jack. Then, connect an optical cable plug to **DIGITAL IN (OPTICAL)** jack.



#### When DIGITAL IN (OPTICAL) jack is not being used

Attach the supplied dust cap.

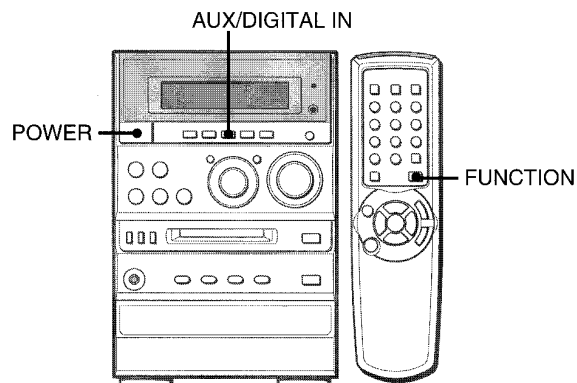
#### NOTE

The sound input via this jack may be cut off while an MD is being loaded or ejected.

### SUPER WOOFER JACK

Connect an optional powered sub woofer with a built-in-amplifier to the jack.

## LISTENING TO EXTERNAL SOURCES



### TO PLAY EQUIPMENT CONNECTED TO THE VIDEO/AUX JACKS

1 Press the **AUX/DIGITAL IN** button repeatedly so that "AUX" is displayed.

2 Play the connected equipment.

#### To change a source name in the display window

When the **AUX/DIGITAL IN** button is pressed, "AUX" is displayed initially. It can be changed to "TV" or "VIDEO."

Call up "AUX" on the display window and press the **POWER** button while pressing the **AUX/DIGITAL IN** button. Repeat the procedure to select one of the names.

### TO PLAY EQUIPMENT CONNECTED TO THE DIGITAL IN JACK

1 Press the **AUX/DIGITAL IN** button repeatedly so that "D-IN" is displayed.

2 Play the connected equipment.

## CARE AND MAINTENANCE

Occasional care and maintenance of the unit and the software are needed to optimize the performance of your unit.

### To clean the cabinet

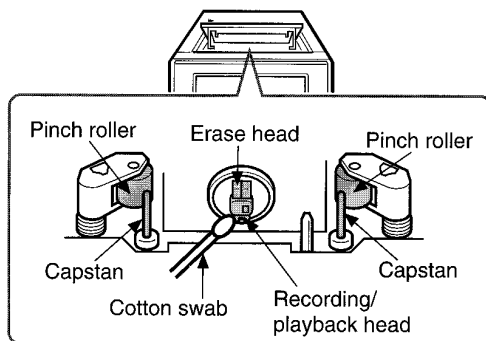
Use a soft and dry cloth.

If the surfaces are extremely dirty, use a soft cloth lightly moistened with mild detergent solution. Do not use strong solvents, such as alcohol, benzene or thinner as these could damage the finish of the unit.

### To clean the heads and tape paths

After every 10 hours of use, clean the heads and tape paths with a head cleaning cassette or cotton swab moistened with cleaning fluid or denatured alcohol. (These cleaning kits are commercially available.)

When cleaning with a cotton swab, wipe the recording/playback head, erasure head, capstans, and pinchrollers.



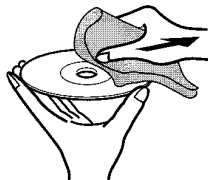
After cleaning the heads and tape paths with a liquid head cleaning cassette, wait until the cleaned parts are completely dry before inserting the tapes.

### Care of the unit

- Do not give the unit a strong shock, i.e., drop or hit.
- Do not use the unit close to a strong magnetic field such as a television. Doing so may cause malfunctions.

### Care of CDs

- When a disc becomes dirty, wipe the disc from the center out with a cleaning cloth.



- After playing a disc, store the disc in its case. Do not leave the disc in places that are hot or humid.

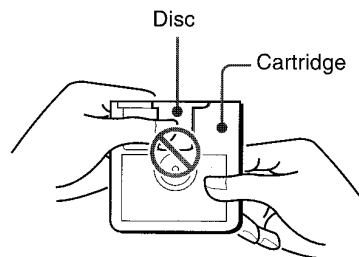
### Care of tapes

- Store tapes in their cases after use.
- Do not leave tapes near magnets, motors, television sets, or any source of magnetism. This will downgrade the sound quality and cause noise.
- Do not expose tapes to direct sunlight, or leave them in a car parked in direct sunlight.

### Care of MDs

Since MDs come in a cartridge which protects the discs inside from fingerprints and dust, you do not have to be overly careful when handling them. However, soiled or damaged cartridges can lead to malfunctions in the unit. Observe the following tips when handling MDs.

- Keep a cartridge in the attached case.
- Do not open the shutter of the cartridge to touch the disc directly. If the disc inside becomes soiled, it is very difficult to clean. The cartridge can also be damaged.
- Close the shutter if it opens while handling or ejecting a disc. Otherwise dust may enter inside or a disc may become scratched.



# MD GUIDE MESSAGES

Message	Cause	Solution
Blank Disc	Nothing is recorded on the disc.	—
Can't Edit	Tracks are too short to be joined up.	See "THE LIMITATIONS OF MD" on page 15.
	The combine function was used while playing back the first track.	
	The divide function is used at the beginning of the track.	
	The combine function was used to join a track recorded in monaural with a track recorded in stereo.	
Disc Error	The disc is damaged by scratches.	Replace the disc.
	The unit received a strong shock during a TOC reading.	Do not subject the disc to strong shock during a TOC reading.
Disc Full	There are not enough time to record remaining on the disc.	Replace the disc with another recordable disc.
Temp Over	The temperature of the unit is too high.	Leave the unit in a cool place for a while before operating it again.
	The surrounding temperature is too high or too low.	Operate the unit at moderate room temperature.
PB Disc	A prerecorded disc is attempted to edit.	Replace the disc with a recordable one.
Protected	The disc is record-protected.	Slide the record-protect tab on the disc. (See page 21.)
TOC Full	There are too many tracks or emphasis data to be recorded or edited, or there is no room on the disc.	Erase tracks.
Mecha Err	Error occurred in the loading mechanism. (All functions are disabled.)	Turn the power off and disconnect the AC cord once. Then turn it on again. If this message still appears, consult your local Aiwa dealer.
MD Error	An error occurred in the MD unit of this unit.	Contact an Aiwa service representative.
UTOE Error	An error occurred in the TOC of the MD because the unit was subjected to a strong shock during recording, or during recording or reading of the TOC.	Exchange the MD. Do not subject the unit to strong shocks during recording, or during recording or reading of the TOC.



# SPECIFICATIONS

## MAIN UNIT XR-MD100

### FM tuner section

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

### AM tuner section

Tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity	350 $\mu$ V/m
Antenna	Loop antenna

### Amplifier section

Power output	25 watts per channel RMS at 6 ohms, from 65 Hz to 15 kHz, with no more than 1 % Total Harmonic Distortion
Total harmonic distortion	0.1 % (10 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX: 400 mV DIGITAL IN sampling frequency: 48 kHz/32 kHz Optical input level: more than -21dBm
Outputs	SUPER WOOFER: 1.4 V SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo minijack): accepts headphones of 16 ohms or more

### Cassette deck section

Track format	4 tracks, 2 channels stereo
Frequency response	CrO <sub>2</sub> tape: 50 Hz – 16000 Hz Normal tape: 50 Hz – 15000 Hz
Signal-to-noise ratio	60 dB (Dolby B NR ON, CrO <sub>2</sub> tape peak level)
Recording system	AC bias
Heads	Deck: Recording/playback/ erase head $\times$ 1

### Compact disc player section

Laser	Semiconductor laser ( $\lambda$ = 780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

### MD recorder section

Scanning method	Non-contact optical scanner (Semiconductor laser application)
Recording system	Magnetic polarity modulation overwrite system
Rotation speed	Aprox. 400 - 900 rpm (CLV)
Sampling frequency	44.1 kHz
No. of channels	Stereo: 2 channels Monaural: 1 channel
A-D, D-A converter	1-bit
Frequency	20 – 20000 Hz $\pm$ 0.2 – -1.5 dB
Wow and flutter	Unmeasurable

## SPEAKER SYSTEM SX-M100

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 130 mm cone type Tweeter: 60 mm cone type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W $\times$ H $\times$ D)	175 $\times$ 275 $\times$ 227 mm (7 $\times$ 10 $\frac{7}{8}$ $\times$ 9 inches)
Weight	3.0 kg (6 lb 10 oz)

### General


Power requirements	120 V AC, 60Hz
Power consumption	66 W
Standby power consumption	1.4 W (power-economizing mode set to ON)
Dimensions (W $\times$ H $\times$ D)	175 $\times$ 275 $\times$ 333mm (7 $\times$ 10 $\frac{7}{8}$ $\times$ 13 $\frac{1}{8}$ inches)
Weight	6 kg (13 lbs 4 oz)

- Specifications and external appearance are subject to change without notice.
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### BBE SYSTEM

The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.  
Under license from BBE sound, Inc.

### DOLBY NR

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.  
"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

### COPYRIGHT

Please check the laws on copyright relating to recordings from discs, radio or external tape for the country in which the machine is being used.

### NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### CAUTION

Modifications or adjustments to this product, which are not expressly approved by the manufacturer, may void the user's right or authority to operate this product.

GENERAL

En

# TROUBLESHOOTING GUIDE

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If the unit fails to perform as described in these Operating Instructions, check the following guide.

## GENERAL

### **There is no sound.**

- Is the AC cord connected properly?
- Is there a bad connection? (→ page 4)
- Was an incorrect function button pressed?

### **The sound becomes inaudible or the unit is turned off suddenly.**

- There may be a short circuit in the speaker terminals.
  - Disconnect the AC cord from the AC outlet and re-connect the speaker cords correctly. Then connect the AC cord and turn the unit on again.

### **Sound is emitted from one speaker only.**

- Is the other speaker disconnected?

### **An erroneous display or a malfunction occurs.**

- Reset the unit as stated below.

## TUNER SECTION

### **There is constant, wave-like static.**

- Is the antenna connected properly? (→ page 4)
- Is the signal weak?
  - Connect an outdoor antenna.

### **The reception contains noise interferences or the sound is distorted.**

- Is the system picking up external noise or multipath distortion?
  - Change the orientation of the antenna.
  - Move the unit away from other electrical appliances.

## CASSETTE DECK SECTION

### **The tape does not run.**

- Is the deck in pause mode? (→ page 13)

### **The sound is off-balance or not adequately high.**

- Is the playback head dirty? (→ page 35)

### **Recording is not possible.**

- Is the erasure prevention tab on the tape broken off? (→ page 14)
- Is the recording head dirty? (→ page 35)

### **Erasure is not possible.**

- Is the erasure head dirty? (→ page 35)
- Is a metal tape being used?

### **High frequency sound is not emitted.**

- Is a tape recorded without Dolby NR played back with the Dolby NR system operating? (→ pages 13, 14)
- Is the recording/playback head dirty? (→ page 35)

## CD PLAYER SECTION

### **The CD player does not play.**

- Is the disc correctly inserted? (→ page 11)
- Is the disc dirty? (→ page 35)
- Is the lens affected by condensation?
  - Wait approximately one hour and try again.

## MD RECORDER SECTION

### **The MD recorder cannot be operated**

- Is there a disc inside the unit?
  - Insert a disc.
- Is the lens affected by condensation?
  - Wait approximately one hour and try again.

### **Sound is noisy**

- Is the unit placed close to an object with a strong magnetic field such as a television?
  - Move the unit away from the television.

### **Sound is intermittent**

- Is the unit placed on an unstable surface with a lot of vibration?
  - Place the unit on a stable surface with no vibration.

### **Recording is not possible**

- Is the digital recording attempted from the source other than CD?
- Is a prerecorded disc inserted?
  - Change to a recordable disc.
- Is the disc protected by the record-protected tab on the disc? (→ page 21)

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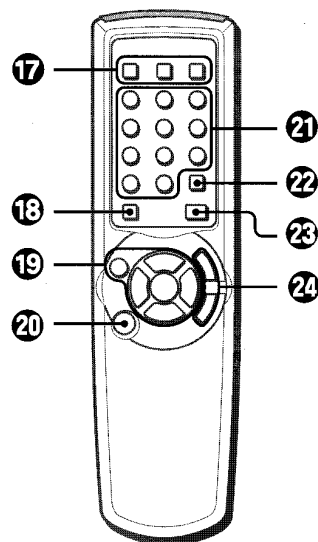
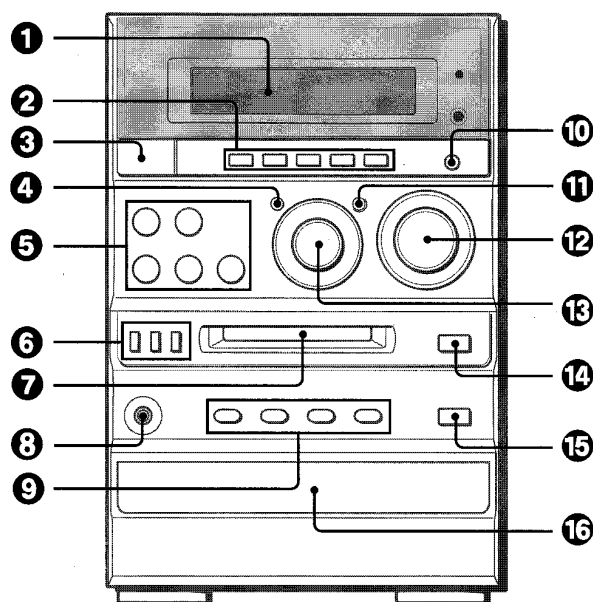
## To reset

If an unusual condition occurs in the display window or the cassette deck, reset the unit as follows.

- 1 Press the POWER button to turn off the power.
- 2 Press the POWER button to turn the power back on while pressing the ■ button. Everything stored in memory after purchase is canceled.

If the power cannot be turned off in step 1 because of a malfunction, reset by disconnecting the AC cord and repeat step 2.

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For assistance and information,

***call toll free 1-800-BUY-AIWA.*** (United States and Puerto Rico)

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